

STUDENT ID #: A4246306 [REDACTED] GROUP #: A

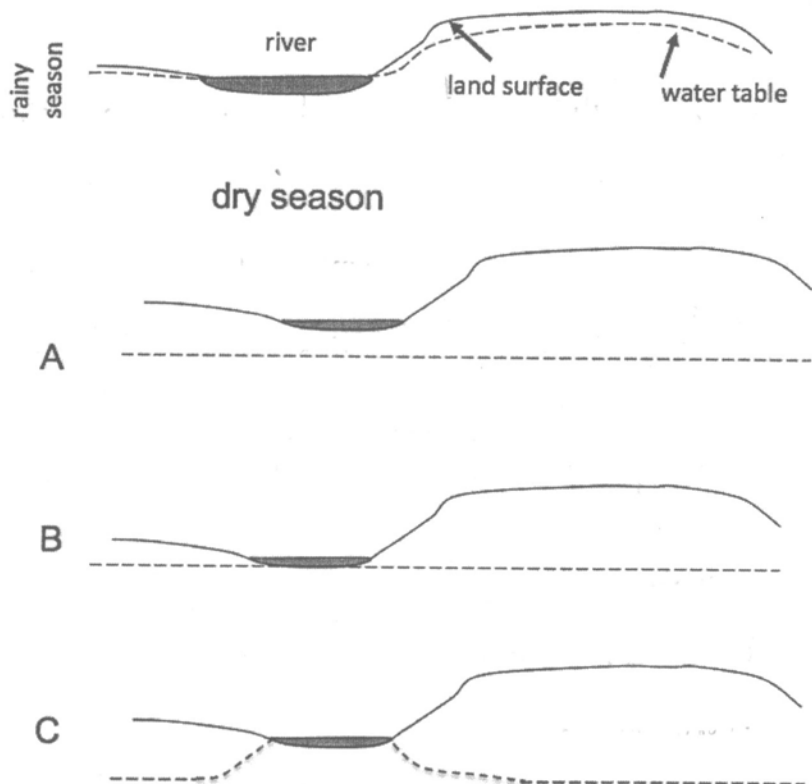
MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

1. What happens when water molecules condense? 9
 - a. Water molecules become larger
 - b. Gaseous water becomes liquid water
 - c. Hydrogen and oxygen atoms combine to form liquid water
 - d. The temperature of water molecules decreases
2. Which of the following is the largest freshwater reservoir
 - a. The atmosphere
 - b. Oceans
 - c. Glaciers
 - d. Lakes and streams
3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?
 - a. Rainfall and surface runoff into the lake
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4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of ____A____, then becomes water in a glacier through the process of ____B____, and then becomes water in clouds through the process of ____C____.
 - a. A= evaporation, B= deposition, C= sublimation
 - b. A = condensation, B= precipitation, C= evaporation
 - c. A= sublimation, B= precipitation, C= evaporation
 - d. A = precipitation, B= freezing, C= condensation
5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?
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 - a. This is what one would predict with global warming
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7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

- a. A= chemical, B= thermal, C= thermal
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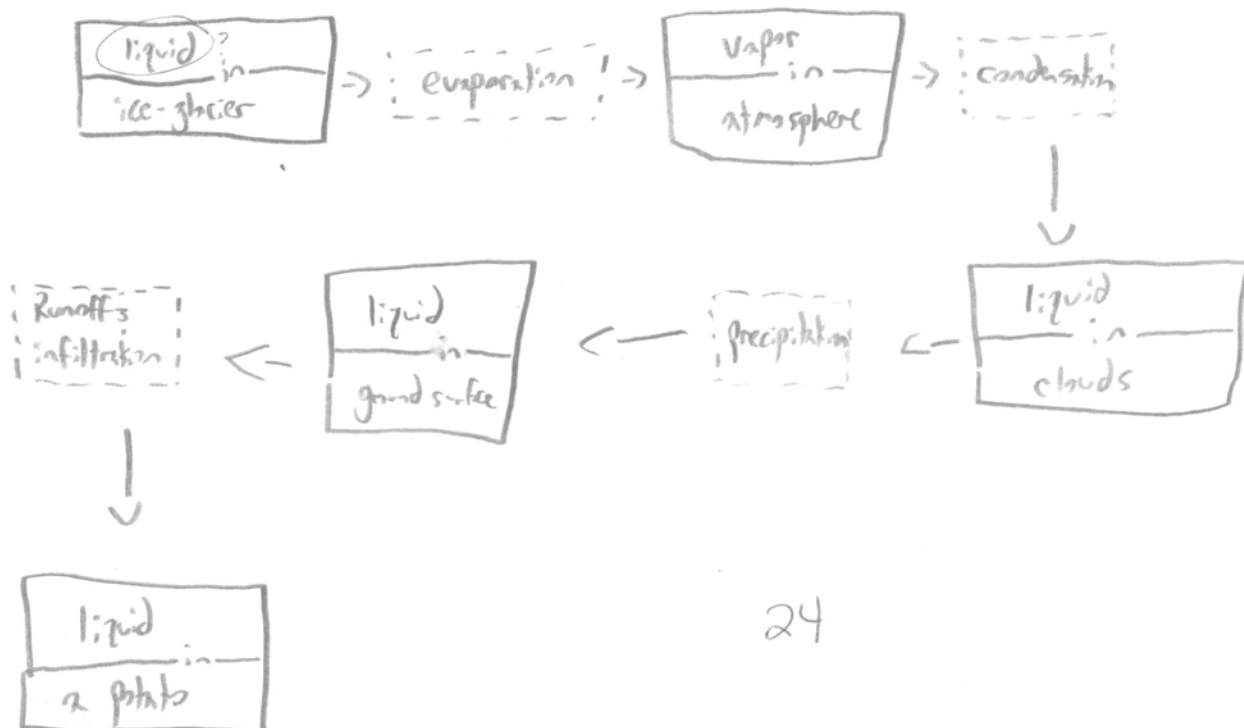
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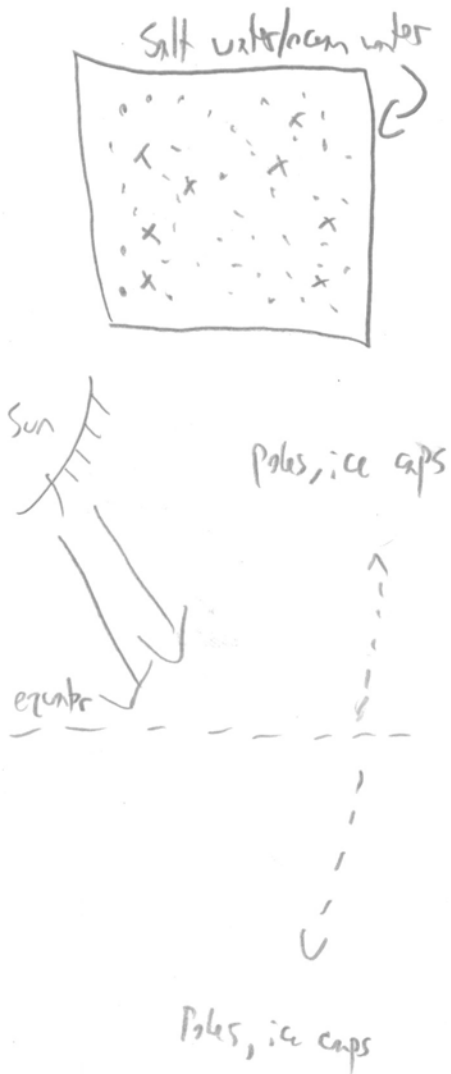
9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- a. been greater
 - b. been less
 - c. remained the same
10. What happens when plants respire?
- a. Plants convert biomass into energy
 - b. Plants convert energy into biomass
 - c. Plants release energy

SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:
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2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:
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Thermohaline circulation takes solar heat from areas like the equator where it is hot; through ocean circulation it is distributed to areas like Greenland; the polar ice caps. If there was more salt in those ice forms than in the remaining water in these arctic areas there would be a serious change in circulation & distribution which would lead to serious global change.

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10

EXTRA CREDIT (2 points)

- EC. How are burning wood and respiration similar?
- They both destroy matter during energy conversion
 - They both convert thermal energy into gravitational energy
 - They both convert chemical energy into thermal energy
 - They both convert kinetic energy into potential energy.

34 45

YOUR SCORE:

79

STUDENT ID #: A43573450; GROUP #: A

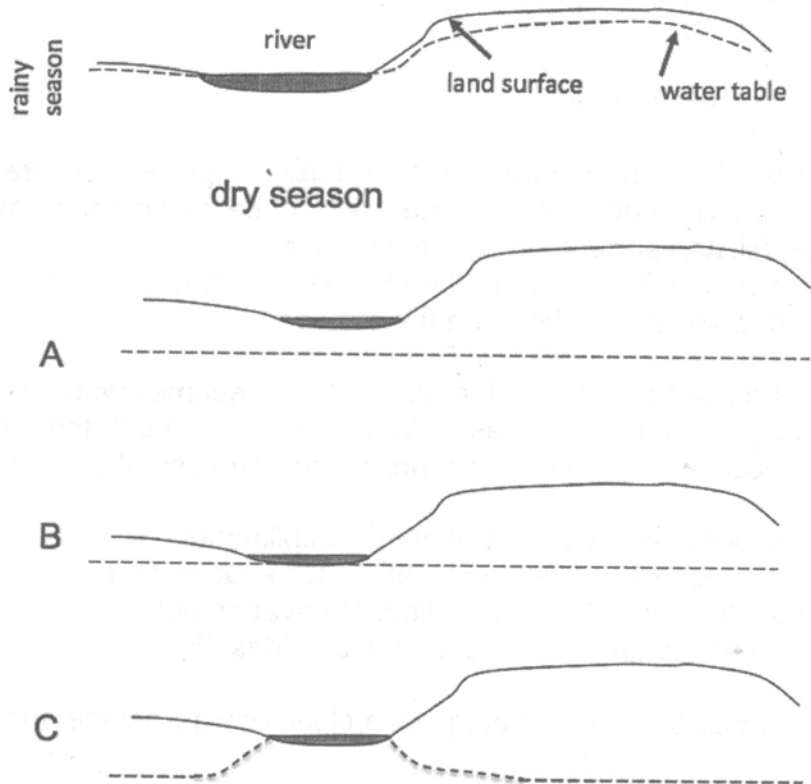
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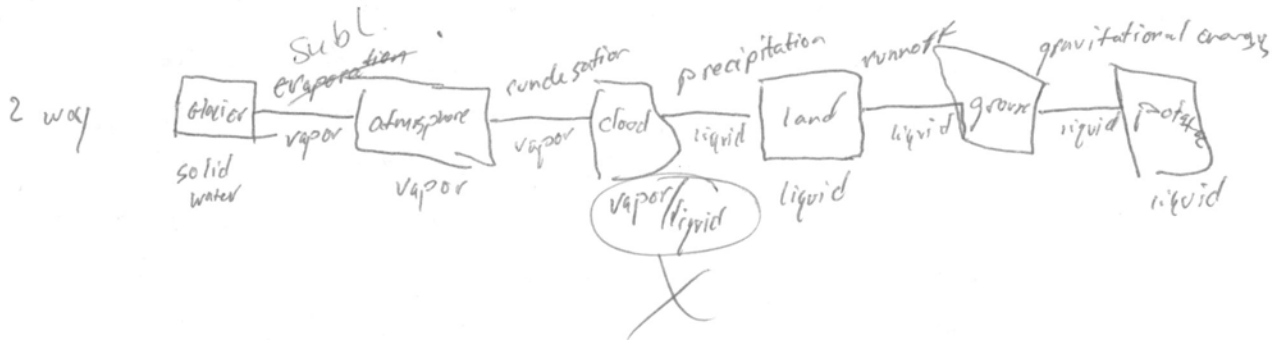
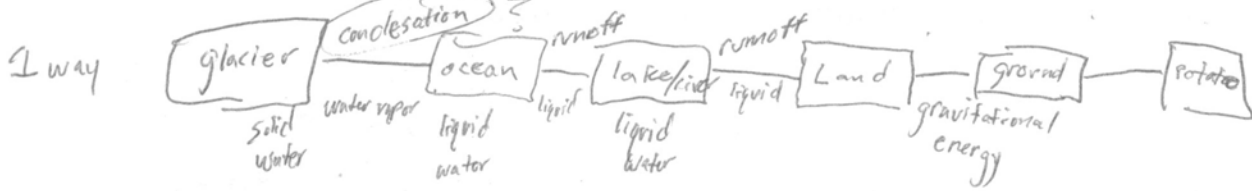


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The ice from seawater has less salt due to the fact that it evaporates during the process of freezing. Whereas for thermohaline circulation in oceans with polar ice would change when it freezes due to the fact that there is a different process. With thermohaline the ocean circulates the warm water and cold water while using thermal and chemical energy. Now since it circulates, it uses less potential energy and more kinetic. This happens because the thermal energy is affecting the state of the water and creates better circulation.



EXTRA CREDIT (2 points)

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YOUR SCORE:

58

STUDENT ID #: A40706302; GROUP #: A

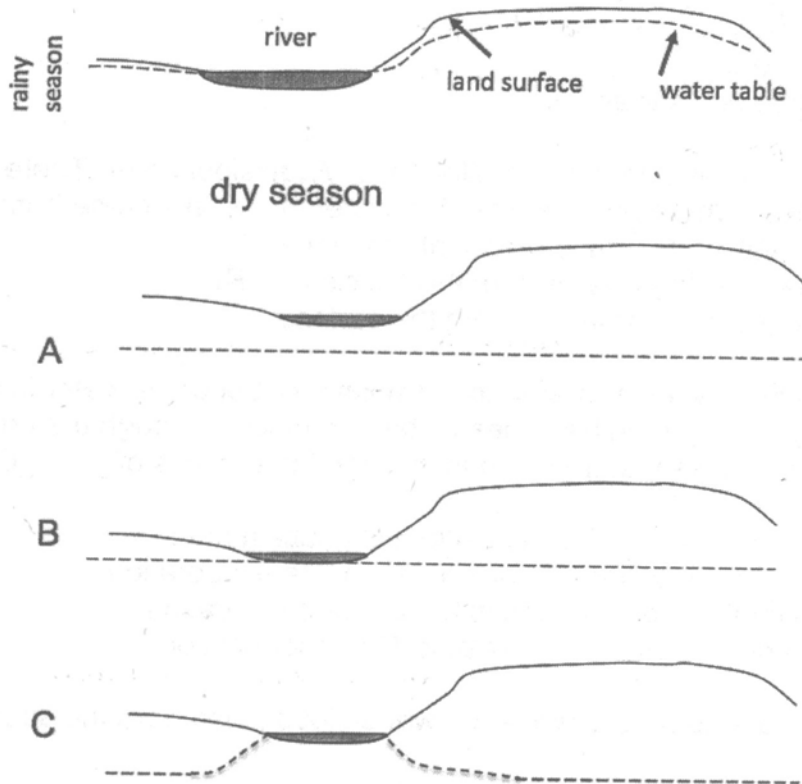
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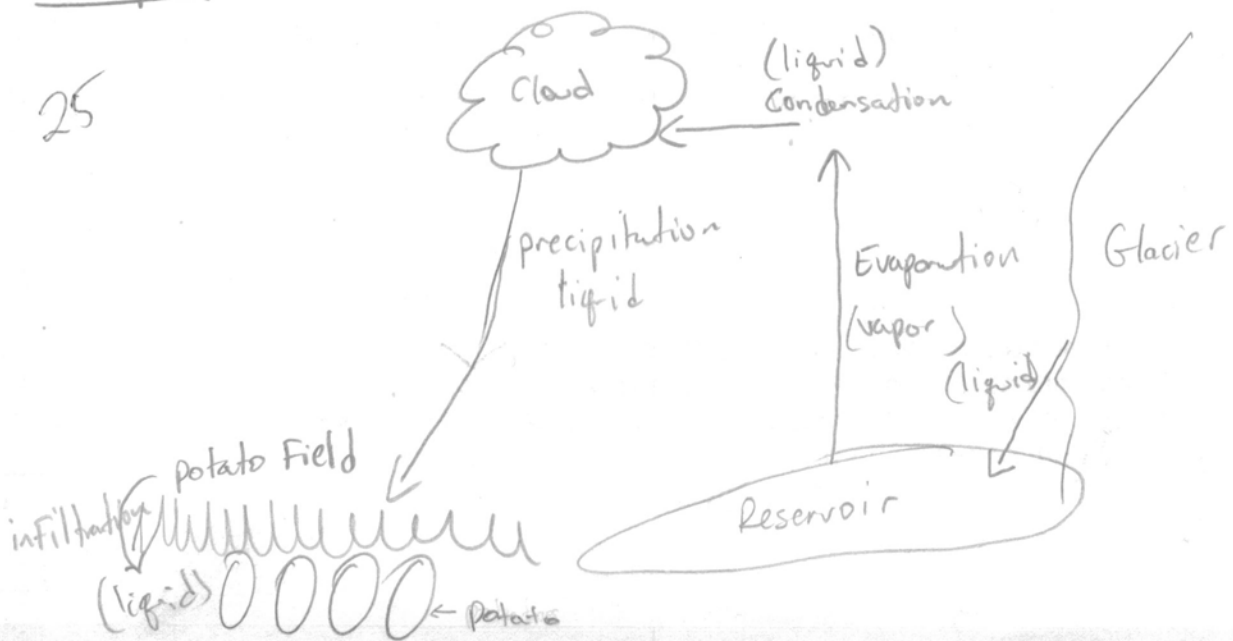
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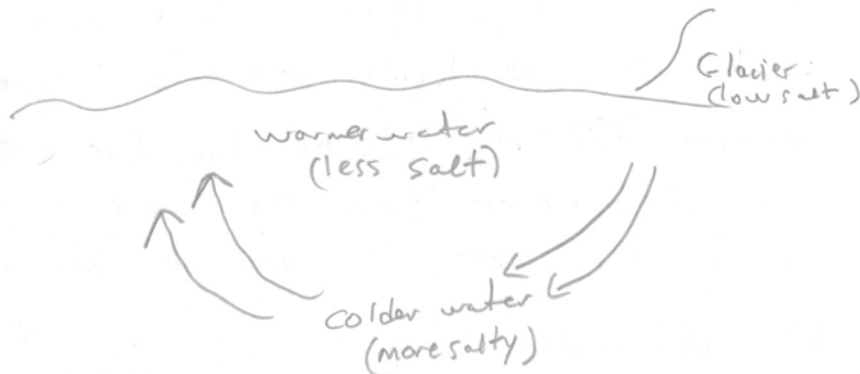
A water molecule would naturally move from a glacier to become part of a potato through the water cycle process. First, the glacier would melt causing the water molecule to move to some type of reservoir. After remaining in the reservoir as a liquid the molecule would evaporate into a vapor and enter into the atmosphere. After being in the atmosphere the molecule would change from a vapor into a liquid through condensation. The liquid would be stored as a cloud weighing roughly 220,000? 250,000 lbs. Eventually, there would be precipitation from the cloud to the ground because of gravitational energy. After the molecule hits the ground it would infiltrate from the ground into the soil where the potato is being grown, soaking into the potato.

Example:



2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:
- a. Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
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Thermohaline Circulation would change if polar ice contained more salt than surrounding seawater from which it freezes. This circulation would be changed because when ice forms now it is clear the ice has less salt than the remaining water. The remaining water would be less salty if this change was to happen.



Thermohaline Circulation would not look like the above picture anymore if the ice contained more salt. I think there would be less of a separation between the warmer and cooler water if this happened. Warmer and cooler water would have more towards the same amount of salt.

2 EXTRA CREDIT (2 points)

- EC. How are burning wood and respiration similar?
- a. They both destroy matter during energy conversion
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YOUR SCORE:

72

STUDENT ID #: A41749376; GROUP #: A

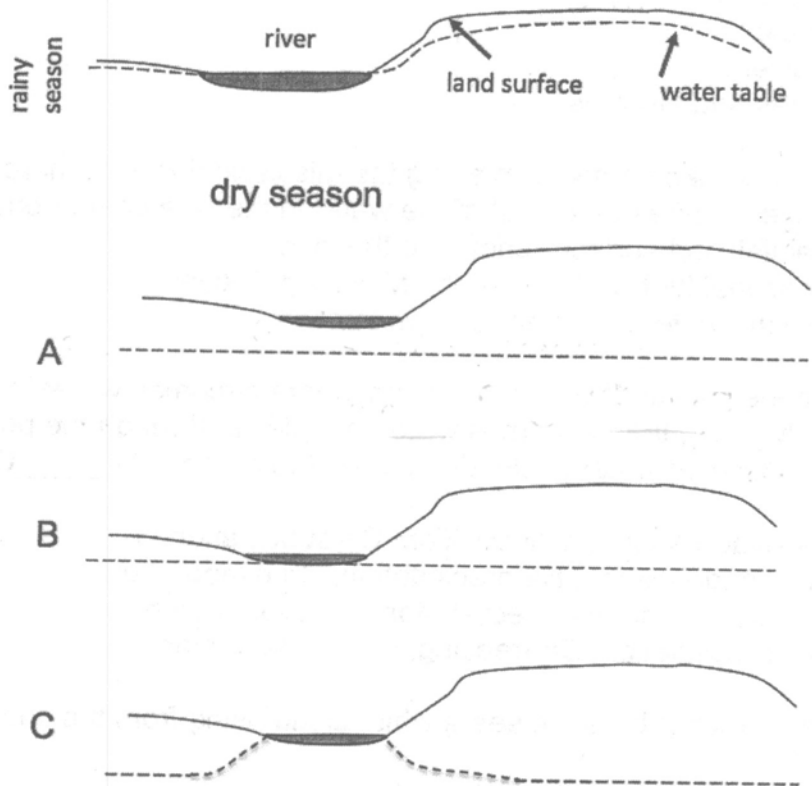
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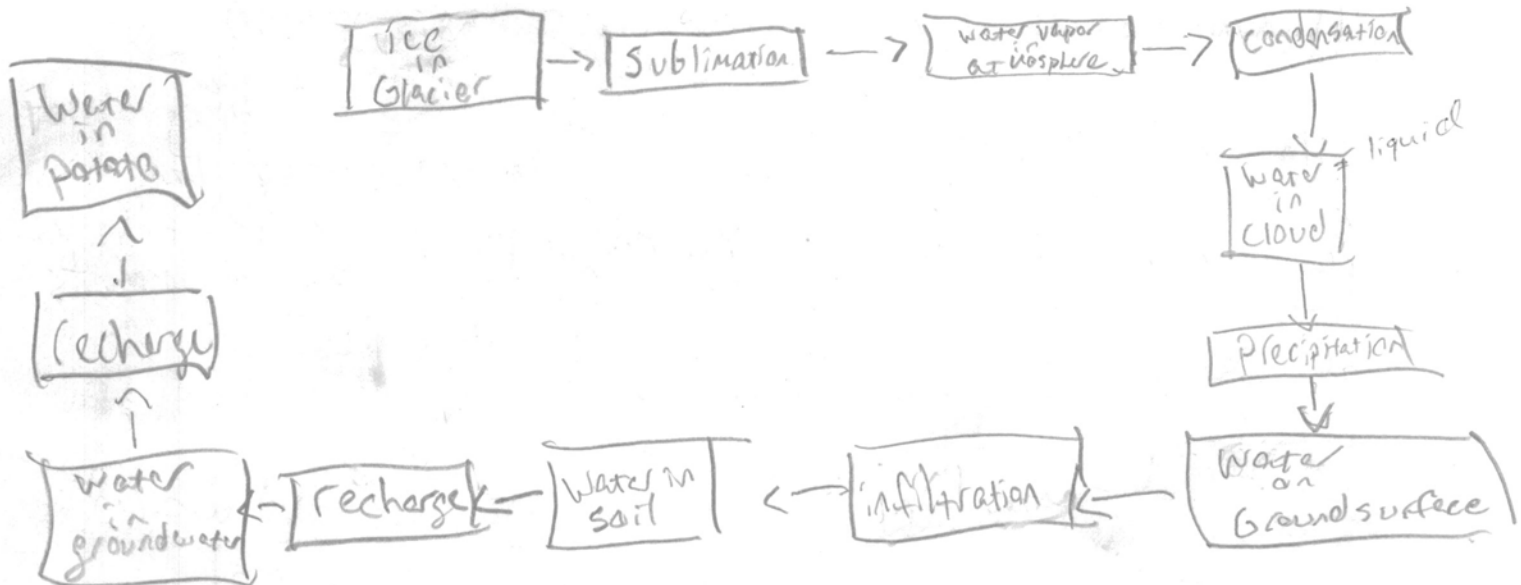
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Thermohaline circulations in oceans would slow down and eventually come to a halt. If the polar ice contained more salt than the surrounding seawater, the ice would have a higher density than the surrounding seawater. The ~~ice~~ water molecules in the ice would have less volume because of the increased amounts of salt, increasing the density of polar ice. This would disrupt thermohaline circulation in oceans as the ice would be more dense causing a disruption in the circulation of cold and warm water. There would not be an equal dispersal of salt in the water.

10

explain

This process occurs because warm water is less dense than cold water which allows the cold water to sink. If the ice which is less dense became more dense from the salt, the entire circulation would be disrupted, as thermal energy would decrease as the salt water keeps freezing.

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YOUR SCORE:

86

STUDENT ID #: A41694022; GROUP #: A

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10

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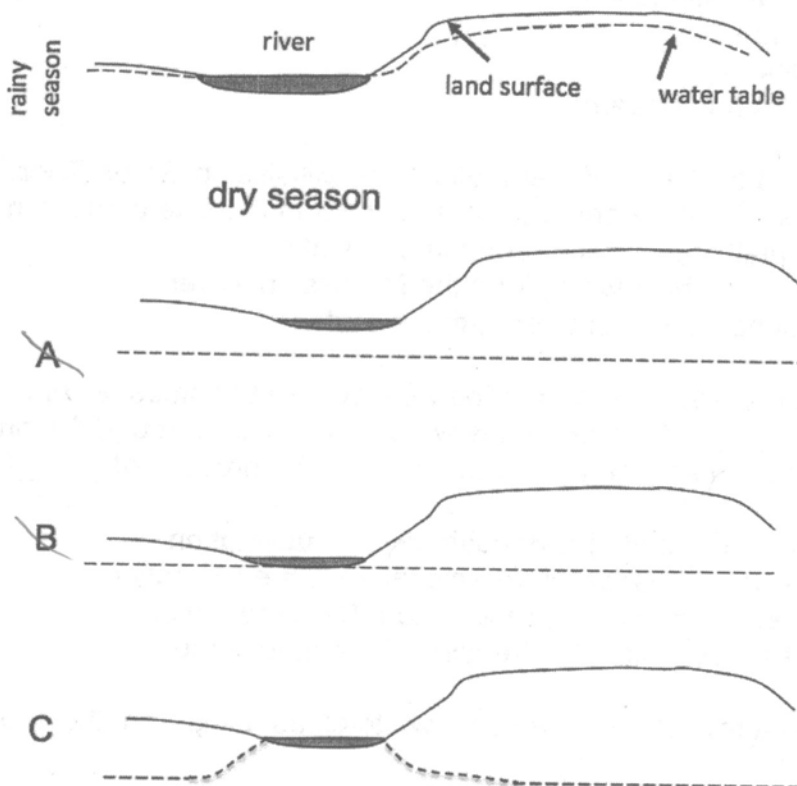
ISP 203A: GLOBAL CHANGE
EXAM #1; Sibley/Libarkin, Spring 2011; 100 points

2

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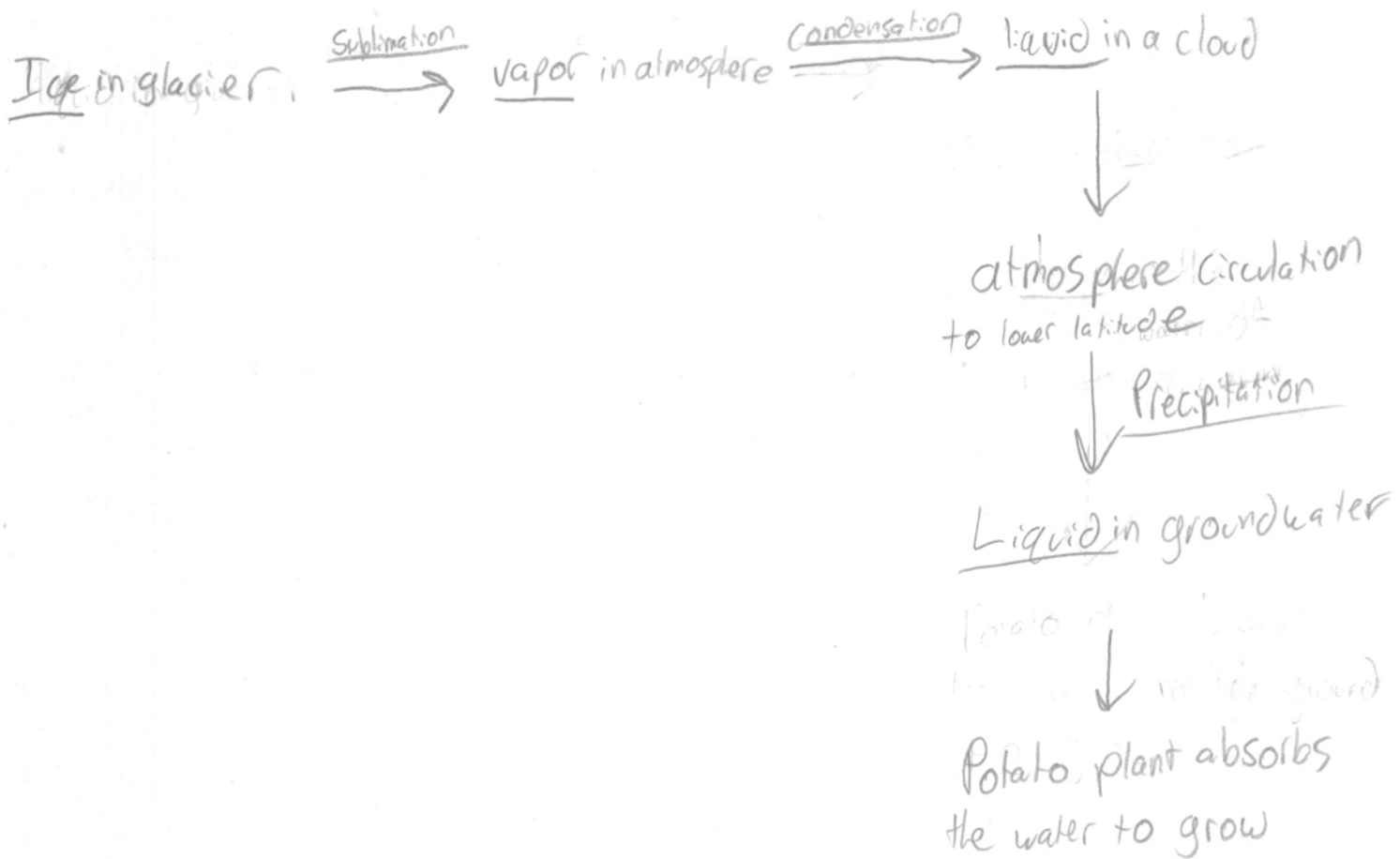


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Thermohaline circulation occurs because of differences in density of hot and cold water. Hot water rises, cold sinks. Fueled by the winds caused by differences in the angle solar radiation (energy) hits earth, warm water moves towards poles and colder water towards equatorial regions.

If polar ice contained more salt, then the water around it, more ice would freeze to encourage the equilibrium of Salinity between the ice and water, this would slow down the circulation of cold water moving toward the equatorial regions in circulation

15

EXTRA CREDIT (2 points)

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YOUR SCORE:

90

STUDENT ID #: A4427286; GROUP #: B

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- 5
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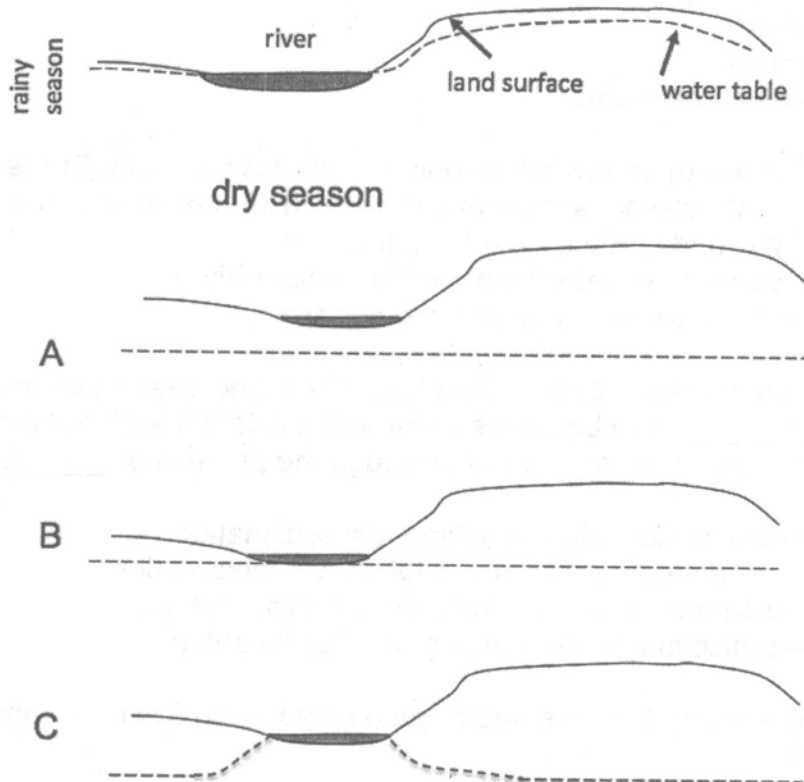
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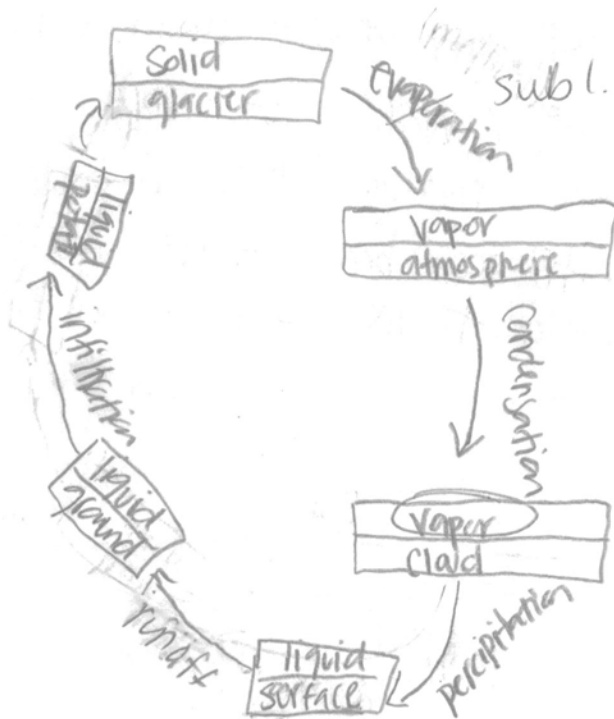
8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- a. been greater
 b. been less
 c. remained the same
10. What happens when plants respire?
- a. Plants convert biomass into energy
 b. Plants convert energy into biomass
☒ c. Plants release energy

SHORT ANSWER. 25 points each (50 points total)

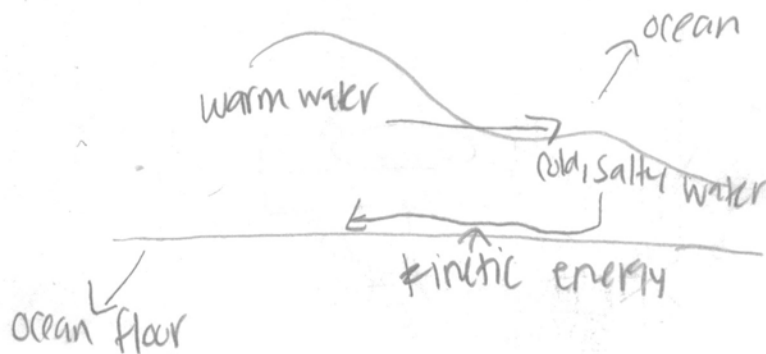
1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:
- Water phase at each step in the journey
 - A name for each process that moves or transforms water



The molecule would start off as a solid in the glacier. It would then evaporate and turn into vapor in the atmosphere. Next, the water would condense and be vapor in a cloud. The next step would be for precipitation to occur and for the molecule to become a liquid and be stored as surface water. Due to runoff, the liquid becomes stored as groundwater and infiltrates as a liquid into the potato.

2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:
- Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
 - The energy that is causing movement or transformation of water.

Circulation is happening because warm water comes in and moves colder, saltier water out. If the polar ice contained more salt than surrounding water it would be more difficult for circulation to occur because there would be less energy available for warm water to move the cold water therefore slowing the process.



2

EXTRA CREDIT (2 points)

EC. How are burning wood and respiration similar?

- They both destroy matter during energy conversion
- They both convert thermal energy into gravitational energy
- ☒ They both convert chemical energy into thermal energy
- They both convert kinetic energy into potential energy.

YOUR SCORE:

50

STUDENT ID #: A39963430; GROUP #: B

MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

1. What happens when water molecules condense? 7
- Water molecules become larger
 - Gaseous water becomes liquid water
 - Hydrogen and oxygen atoms combine to form liquid water
 - The temperature of water molecules decreases
2. Which of the following is the largest freshwater reservoir
- The atmosphere
 - Oceans
 - Glaciers
 - Lakes and streams
3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?
- Rainfall and surface runoff into the lake
 - Seasonal high water from the Mississippi River
 - Ground water from beneath the surface
4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of A, then becomes water in a glacier through the process of B, and then becomes water in clouds through the process of C.
- ~~A = evaporation, B = deposition, C = sublimation~~
 - A = condensation, B = precipitation, C = evaporation
 - A = sublimation, B = precipitation, C = evaporation
 - A = precipitation, B = freezing, C = condensation
5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?
- Liquid water from the pot condenses
 - Liquid water from the pot evaporates
 - Water vapor from the pot condenses
 - Water vapor from the pot evaporates
6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?
- This is what one would predict with global warming
 - This is the opposite of what one would predict with global warming
 - ~~Predictions about global warming do not address global precipitation.~~

ISP 203A: GLOBAL CHANGE
EXAM #1; Sibley/Libarkin, Spring 2011; 100 points

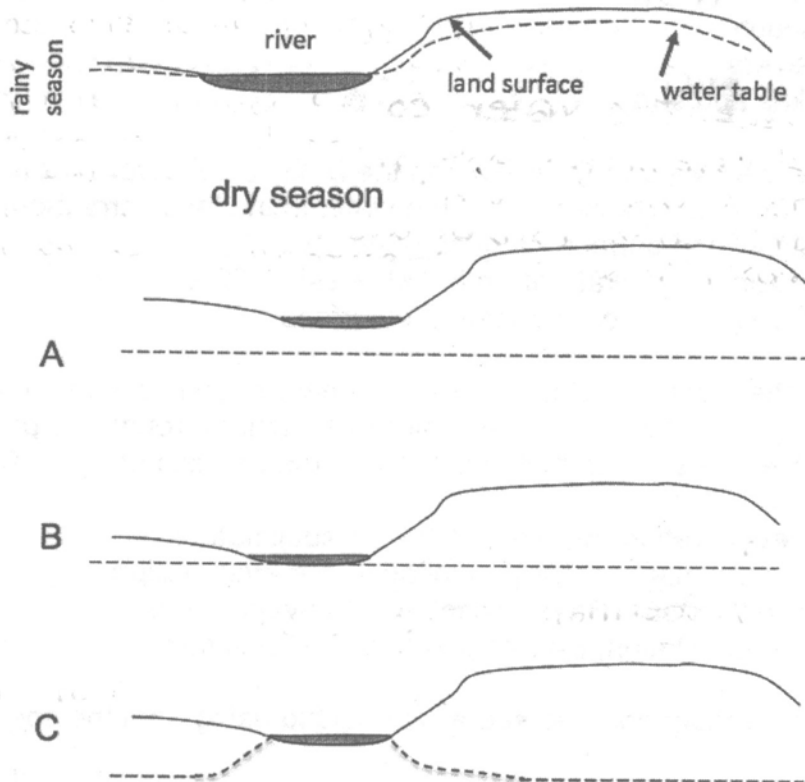
2

7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

ground \rightarrow soil (g)
atm \rightarrow clouds (t)
clouds \rightarrow atm (t)

- a. A = chemical, B = thermal, C = thermal
b. A = gravitational, B = gravitational, C = thermal
c. A = gravitational, B = thermal, C = thermal
d. A = thermal, B = thermal, C = thermal

8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- melting glaciers
- a. been greater
b. been less
c. remained the same

10. What happens when plants respire?
- a. Plants convert biomass into energy
b. Plants convert energy into biomass
c. Plants release energy



SHORT ANSWER. 25 points each (50 points total)

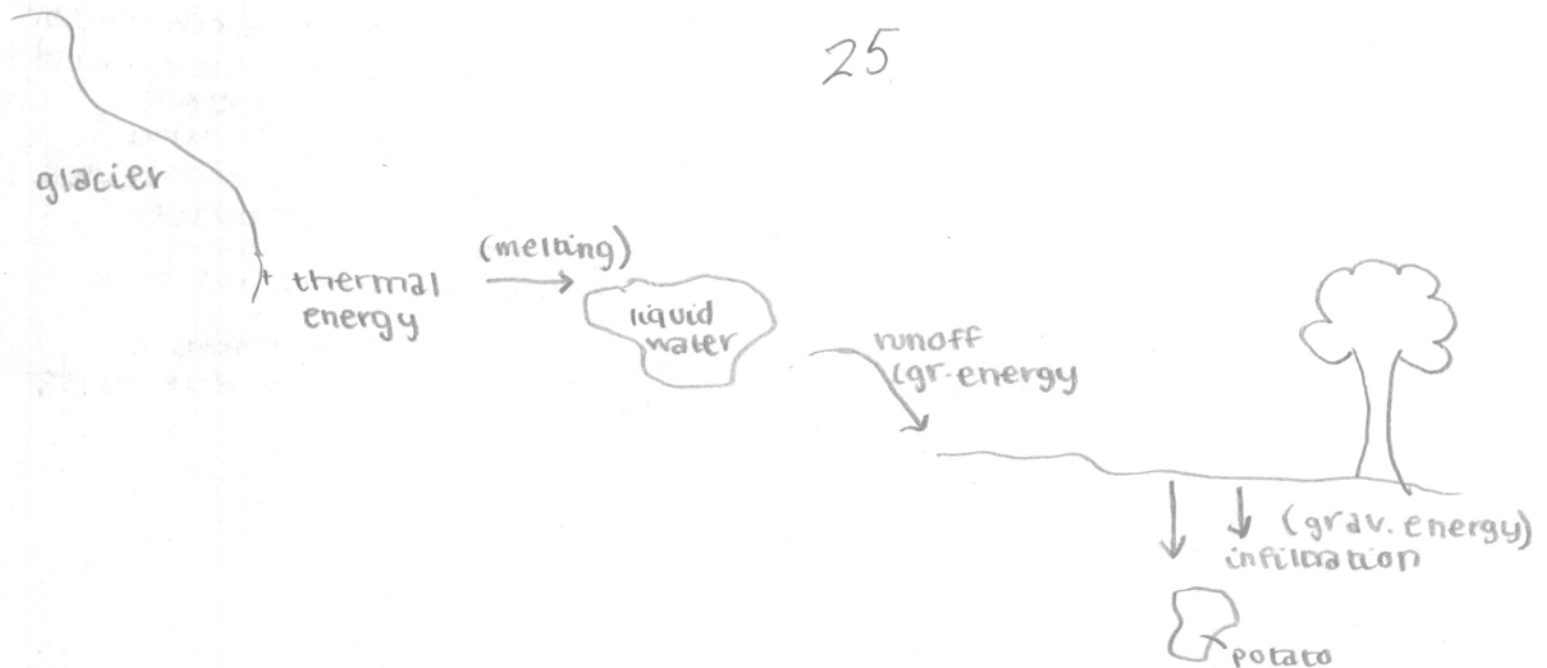
1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:

- Water phase at each step in the journey
- A name for each process that moves or transforms water

temp = energy
due to motion
of molecules
(thermal)

With an increase of thermal energy, the water in the glacier could change from the solid state to the liquid state (melting). The increase in thermal energy caused molecules to move faster/spread farther apart causing it to be in the liquid state. Due to gravitational energy, the liquid water could become water on the Earth's surface. The water could then infiltrate into the soil due to gravitational energy as well. Because potatoes are a plant grown underneath the surface the water molecule could now be part of the potato's roots as the plant saturates the water that was infiltrated into the soil.

25



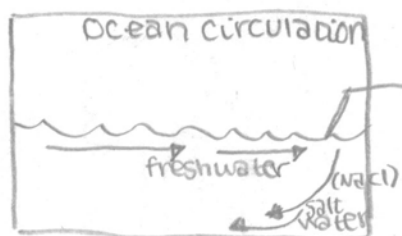
2. When ice forms from seawater, the ice contains less salt than the remaining water.

Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:

- Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
- The energy that is causing movement or transformation of water.

ice = less salt (less dense)

The circulation of ocean water has to do with both thermal energy and chemical energy. Because sea water contains more molecules of NaCl (salt), the water is more dense than the freshwater. There are more molecules in a given volume so the density of the water increases. As the salt water and freshwater combine, the freshwater stays near the surface and the saltwater sinks to the bottom due to its higher density. Thermal energy plays a role as well because at a higher temperature, molecules are spread farther apart, decreasing density. If polar ice contained more salt than the surrounding water, the circulation could change because the actual salinity of the seawater would be much greater. The increase of salinity would increase the density of the water as well. The polar ice itself would be denser due to the increase in NaCl molecules and the circulation of fresh and saltwater amount of would decrease. The water could also begin to give off less heat because more of it is being sunk to the ocean floor due to its greater density.



10

2 EXTRA CREDIT (2 points)

EC. How are burning wood and respiration similar?

- They both destroy matter during energy conversion
- They both convert thermal energy into gravitational energy
- They both convert chemical energy into thermal energy
- They both convert kinetic energy into potential energy.

YOUR SCORE:

72

STUDENT ID #: A40290629; GROUP #: B

MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

1. What happens when water molecules condense?

7

- ☒ a. Water molecules become larger
- ☐ b. Gaseous water becomes liquid water
- ☐ c. Hydrogen and oxygen atoms combine to form liquid water
- ☐ d. The temperature of water molecules decreases

2. Which of the following is the largest freshwater reservoir

- ☐ a. The atmosphere
- ☐ b. Oceans
- ☐ c. Glaciers
- ☒ d. Lakes and streams

3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?

- ☐ a. Rainfall and surface runoff into the lake
- ☐ b. Seasonal high water from the Mississippi River
- ☒ c. Ground water from beneath the surface

4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of ____A____, then becomes water in a glacier through the process of ____B____, and then becomes water in clouds through the process of ____C____.

- ☐ a. A= evaporation, B= deposition, C= sublimation
- ☒ b. A = condensation, B= precipitation, C= evaporation
- ☐ c. A= sublimation, B= precipitation, C= evaporation
- ☐ d. A = precipitation, B= freezing, C= condensation

5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?

- ☐ a. Liquid water from the pot condenses
- ☐ b. Liquid water from the pot evaporates
- ☐ c. Water vapor from the pot condenses
- ☒ d. Water vapor from the pot evaporates

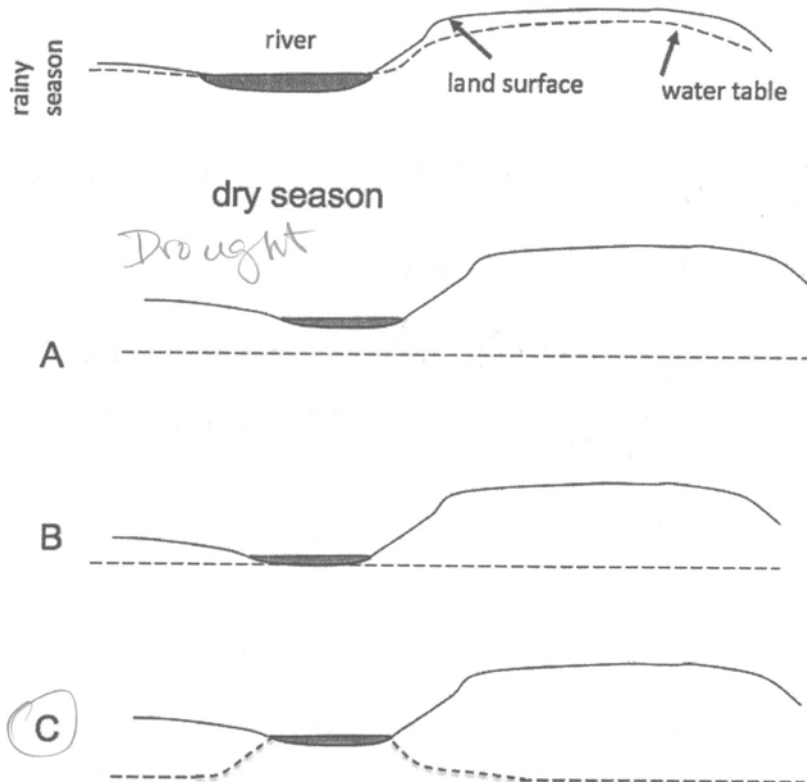
6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?

- ☒ a. This is what one would predict with global warming
- ☐ b. This is the opposite of what one would predict with global warming
- ☐ c. Predictions about global warming do not address global precipitation.

7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

- a. A = chemical, B = thermal, C = thermal
b. A = gravitational, B = gravitational, C = thermal
c. A = gravitational, B = thermal, C = thermal
d. A = thermal, B = thermal, C = thermal

8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- a. been greater
b. been less
c. remained the same
10. What happens when plants respire?
- a. Plants convert biomass into energy
b. Plants convert energy into biomass
c. Plants release energy

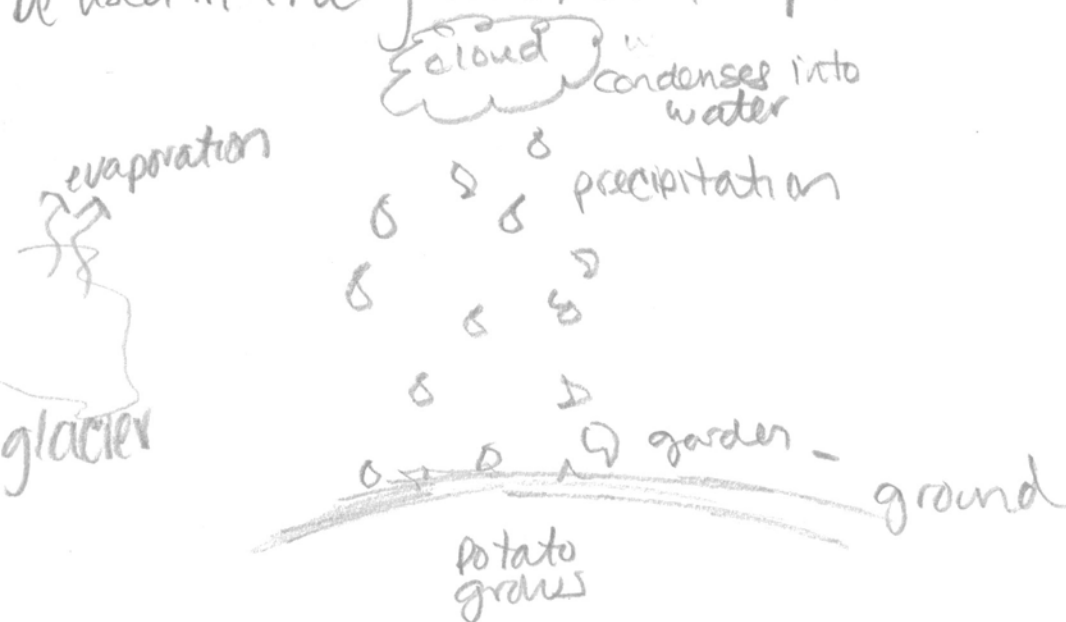
SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:

- Water phase at each step in the journey
- A name for each process that moves or transforms water

ice glacier → evaporates into atmosphere → Condenses to liquid in cloud → precipitation from cloud to ground
sublimation

Ice from a glacier could evaporate into the atmosphere, through sublimation. Then the vapor could condense to a liquid in a cloud. Then precipitation can occur and the water would fall to the ground. The soil that the liquid water falls to could be a potato garden, where the water could then be used in the growth of the potato. ^{OK}



~~22~~ 23

2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:

- Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
- The energy that is causing movement or transformation of water.

Thermohaline circulation would change if there were more salt in the glaciers and less in surrounding seawater.

Water circulation can be caused from density in the water and by using chemical & thermal energy. The salt water is more dense than freshwater. This would make the ice more dense than it regularly would. Also, if the ocean had less salt then there would be more "less salty" water sitting on the top of the current, & not as much salt water floating to the bottom. Warm water usually floats to the top and cold & salt water goes to the bottom. This causes the current. The two densities would be less of a combative circulation.



10

2 EXTRA CREDIT (2 points)

EC. How are burning wood and respiration similar?

- They both destroy matter during energy conversion
- They both convert thermal energy into gravitational energy
- They both convert chemical energy into thermal energy
- They both convert kinetic energy into potential energy.

YOUR SCORE:

70

STUDENT ID #: A43979706; GROUP #: B

MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

1. What happens when water molecules condense?
a. Water molecules become larger
☒ b. Gaseous water becomes liquid water
c. Hydrogen and oxygen atoms combine to form liquid water
d. The temperature of water molecules decreases
2. Which of the following is the largest freshwater reservoir
a. The atmosphere
b. Oceans
☒ c. Glaciers
d. Lakes and streams
3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?
a. Rainfall and surface runoff into the lake
b. Seasonal high water from the Mississippi River
c. Ground water from beneath the surface
4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of ____A____, then becomes water in a glacier through the process of ____B____, and then becomes water in clouds through the process of ____C____.
a. A= evaporation, B= deposition, C= sublimation
☒ b. A = condensation, B= precipitation, C= evaporation
c. A= sublimation, B= precipitation, C= evaporation
d. A = precipitation, B= freezing, C= condensation
5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?
a. Liquid water from the pot condenses
b. Liquid water from the pot evaporates
☒ c. Water vapor from the pot condenses
d. Water vapor from the pot evaporates
6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?
a. This is what one would predict with global warming
b. This is the opposite of what one would predict with global warming
c. Predictions about global warming do not address global precipitation.

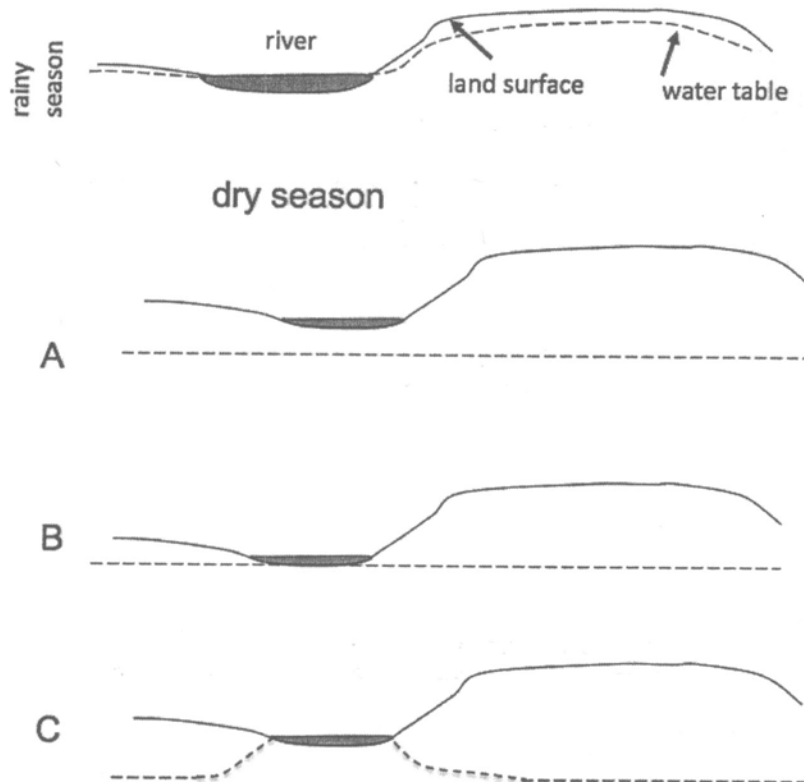
ISP 203A: GLOBAL CHANGE
EXAM #1; Sibley/Libarkin, Spring 2011; 100 points

2

7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

- a. A= chemical, B= thermal, C= thermal
b. A = gravitational, B= gravitational, C= thermal
c. A = gravitational, B= thermal, C= thermal
d. A= thermal, B= thermal, C= thermal

8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- a. been greater
b. been less
c. remained the same
10. What happens when plants respire?
- a. Plants convert biomass into energy
b. Plants convert energy into biomass
c. Plants release energy

SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:
- Water phase at each step in the journey
 - A name for each process that moves or transforms water

Part 1: Evaporation: Sun melts glacial ice into liquid

Water from the glacial region evaporates, turning liquid into water vapor in the atmosphere

Part 2: Condensation

The water vapor condensates to form cloud, creating a reservoir in the sky.

Part 3: Precipitation

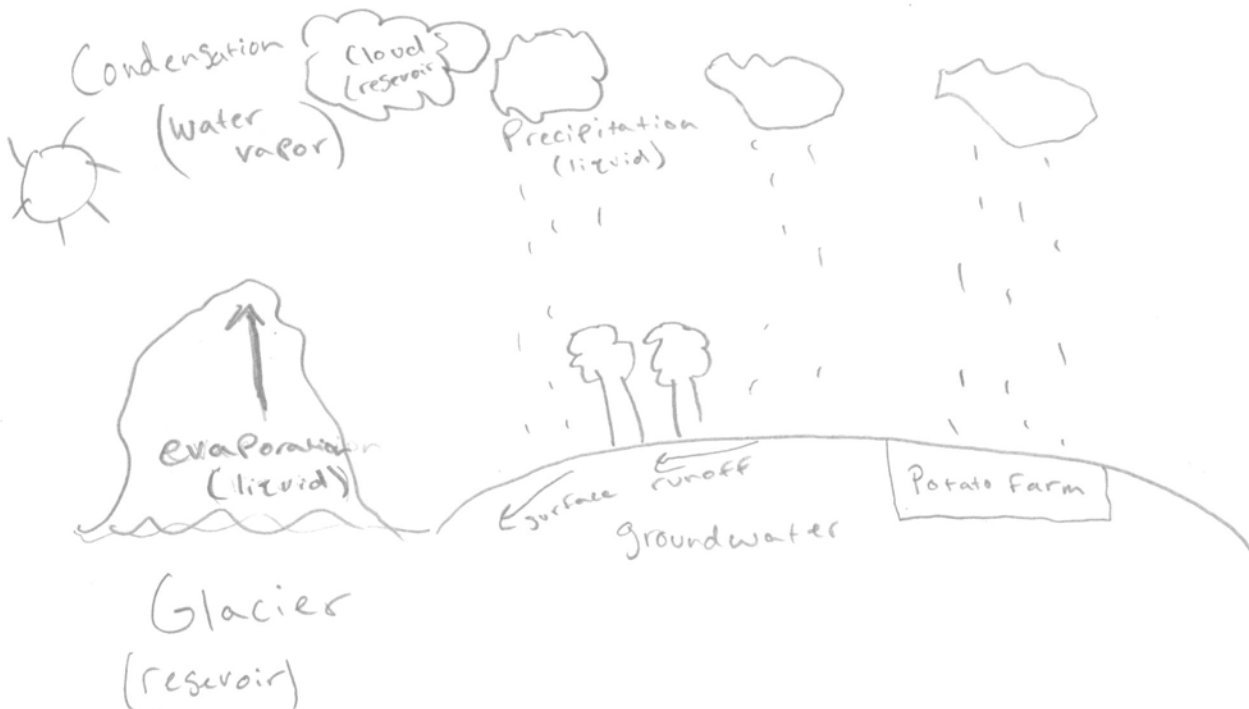
Water vapor changes to liquid causing rain

Part 4: Surface runoff

Water originally from glacier returns to the glacier but also hydrates surrounding areas including a potato farm

Part 5: Plants transpire and use water

25



2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:
- a. Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
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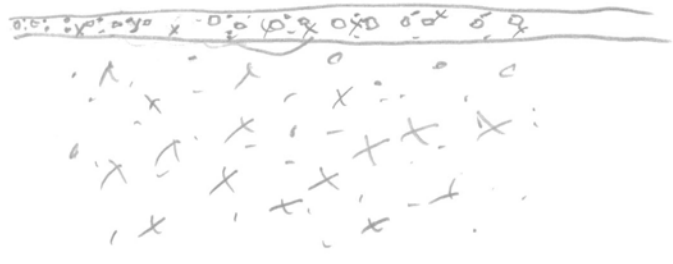
Thermohaline circulation would cause the frozen ice to have less salt water because salt water is more dense than freshwater. As temp. decreases, salt will descend further than the "less salty" water causing freezing at the surface. Because this happens, ~~water~~ salt water unfrozen will contain more salt than before until the ice is melted. Thermal energy causes the movement of the molecules, ultimately changing its density. Before

↑ 32°F



After

↓ 32°F



2 EXTRA CREDIT (2 points)
EC. How are burning wood and respiration similar?

- a. They both destroy matter during energy conversion
- b. They both convert thermal energy into gravitational energy
- c. They both convert chemical energy into thermal energy
- d. They both convert kinetic energy into potential energy.

YOUR SCORE:

72

STUDENT ID #: A42463118 [REDACTED], GROUP #: C

MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

1. What happens when water molecules condense? 9
- Water molecules become larger
 - Gaseous water becomes liquid water
 - Hydrogen and oxygen atoms combine to form liquid water
 - The temperature of water molecules decreases
2. Which of the following is the largest freshwater reservoir
- The atmosphere
 - Oceans
 - Glaciers
 - Lakes and streams
3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?
- Rainfall and surface runoff into the lake
 - Seasonal high water from the Mississippi River
 - Ground water from beneath the surface
4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of ____A____, then becomes water in a glacier through the process of ____B____, and then becomes water in clouds through the process of ____C____.
- A= evaporation, B= deposition, C= sublimation
 - A = condensation, B= precipitation, C= evaporation
 - A= sublimation, B= precipitation, C= evaporation
 - A = precipitation, B= freezing, C= condensation
5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?
- Liquid water from the pot condenses
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 - Water vapor from the pot condenses
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6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?
- This is what one would predict with global warming
 - This is the opposite of what one would predict with global warming
 - Predictions about global warming do not address global precipitation.

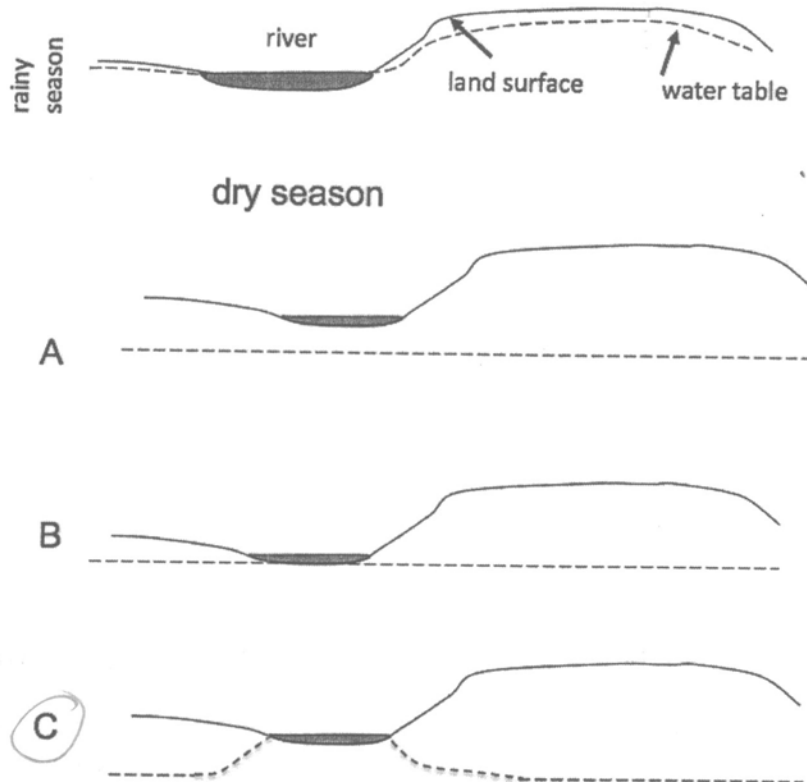
ISP 203A: GLOBAL CHANGE
EXAM #1; Sibley/Libarkin, Spring 2011; 100 points

2

7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

- a. A= chemical, B= thermal, C= thermal
- b. A = gravitational, B= gravitational, C= thermal
- ☒ c. A = gravitational, B= thermal, C= thermal
- d. A= thermal, B= thermal, C= thermal

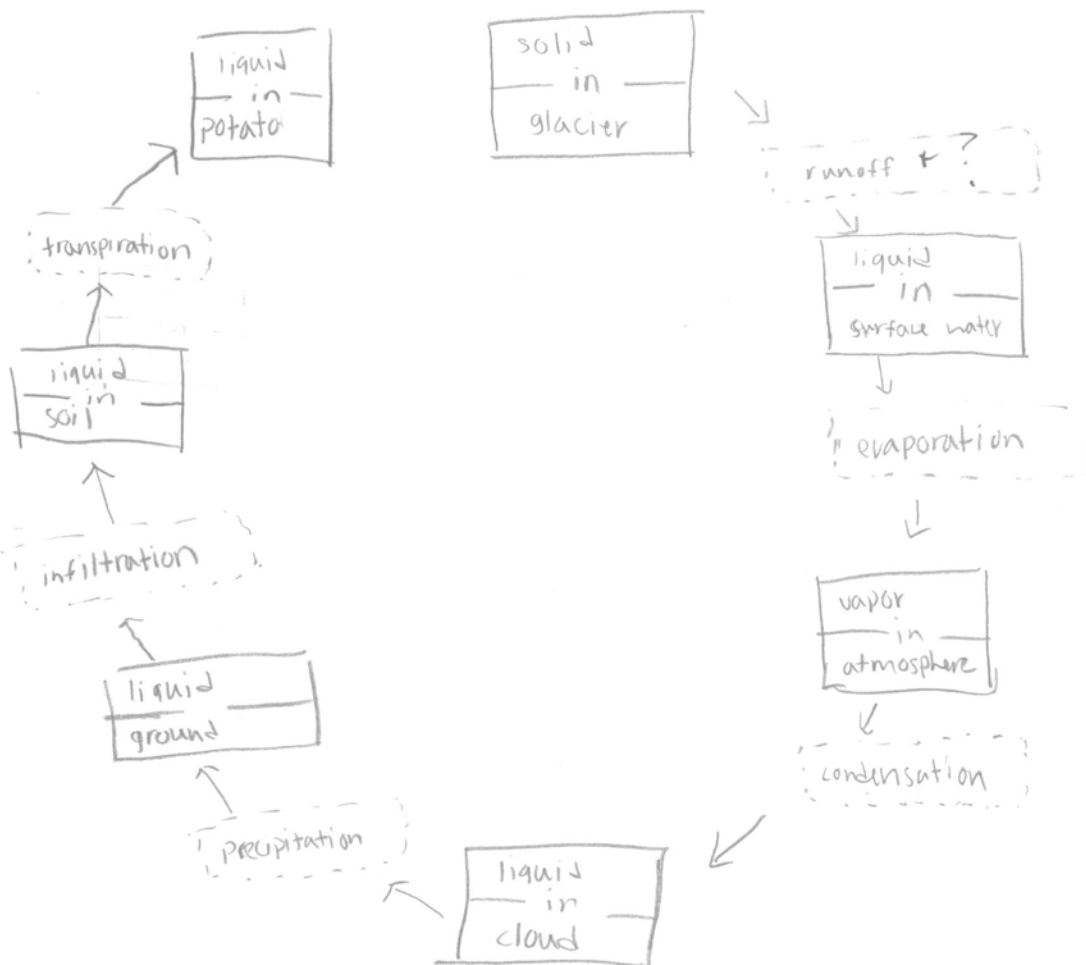
8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- a. been greater
 - ☒ b. been less
 - c. remained the same
10. What happens when plants respire?
- a. Plants convert biomass into energy
 - b. Plants convert energy into biomass
 - c. Plants release energy

SHORT ANSWER. 25 points each (50 points total)

- 1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato.** You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:
- Water phase at each step in the journey
 - A name for each process that moves or transforms water



2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:
- a. Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
 - b. The energy that is causing movement or transformation of water.

Circulation happens because salt water is more dense than liquid water. Thus, in relation to the buoyancy principle, the rising and falling due to relative density of materials causes this circulation. Salt water sinks because it is more dense while water with less salt rises creating a circulation. Thus, chemical energy is driving this circulation. Temperature also contributes to thermohaline circulation because warmer water is less dense than cooler water. Thus warmer water rises while cooler water sinks. Thermal energy also drives the circulation.

If polar ice contained more salt than the surrounding seawater from which it freezes, the thermohaline circulation would be affected because there would be a larger amount of water containing less salt in the oceans. Therefore, there would be less change in the composition of molecules because there would be less salt ions, ultimately affecting the thermohaline circulation because the chemical energy driving the circulation due to the varying densities of more salt and less salt would decrease.

5

2 EXTRA CREDIT (2 points)

- EC. How are burning wood and respiration similar?
- a. They both destroy matter during energy conversion
 - b. They both convert thermal energy into gravitational energy
 - c. They both convert chemical energy into thermal energy
 - d. They both convert kinetic energy into potential energy.

YOUR SCORE:

75

STUDENT ID #: A42609057; GROUP #: C

MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

1. What happens when water molecules condense? *vapor → liquid*

- a. Water molecules become larger
- ☒ b. Gaseous water becomes liquid water ✓
- c. Hydrogen and oxygen atoms combine to form liquid water
- d. The temperature of water molecules decreases

2. Which of the following is the largest freshwater reservoir

- a. The atmosphere
- b. Oceans
- ☒ c. Glaciers *2/3*
- d. Lakes and streams

* 3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?

- a. Rainfall and surface runoff into the lake
- b. Seasonal high water from the Mississippi River -
- ☒ c. Ground water from beneath the surface -

4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of A, then becomes water in a glacier through the process of B, and then becomes water in clouds through the process of C.

- a. A = evaporation, B = deposition, C = sublimation
- ☒ b. A = condensation, B = precipitation, C = evaporation
- c. A = sublimation, B = precipitation, C = evaporation
- d. A = precipitation, B = freezing, C = condensation

*vap → liq = cond
glaciers = precep*

5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?

- a. Liquid water from the pot condenses
- b. Liquid water from the pot evaporates
- ☒ c. Water vapor from the pot condenses
- d. Water vapor from the pot evaporates

6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?

- ☒ a. This is what one would predict with global warming
- b. This is the opposite of what one would predict with global warming
- c. Predictions about global warming do not address global precipitation.

7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

atmos → clouds = Therm

clouds → atmos = therm

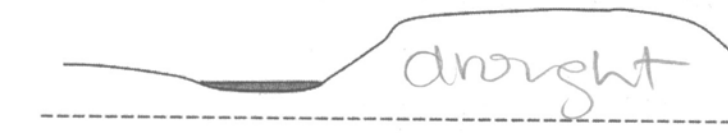
- a. A = chemical, B = thermal, C = thermal
b. A = gravitational, B = gravitational, C = thermal
c. A = gravitational, B = thermal, C = thermal
d. A = thermal, B = thermal, C = thermal

8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?

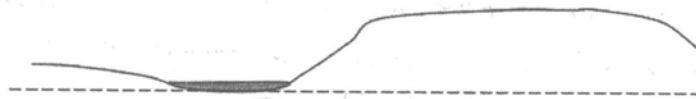


dry season

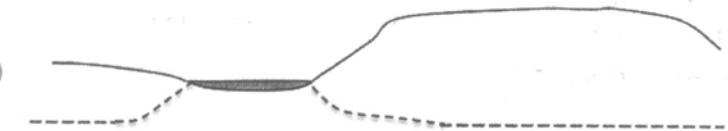
A



B



C



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:

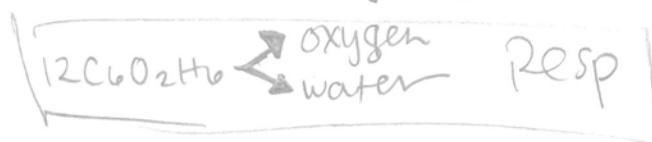
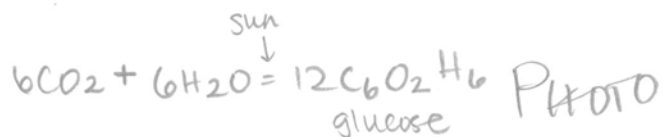
- a. been greater
b. been less
c. remained the same

ice is < dense than water

ice < liquid if liquid < ice

10. What happens when plants respire?

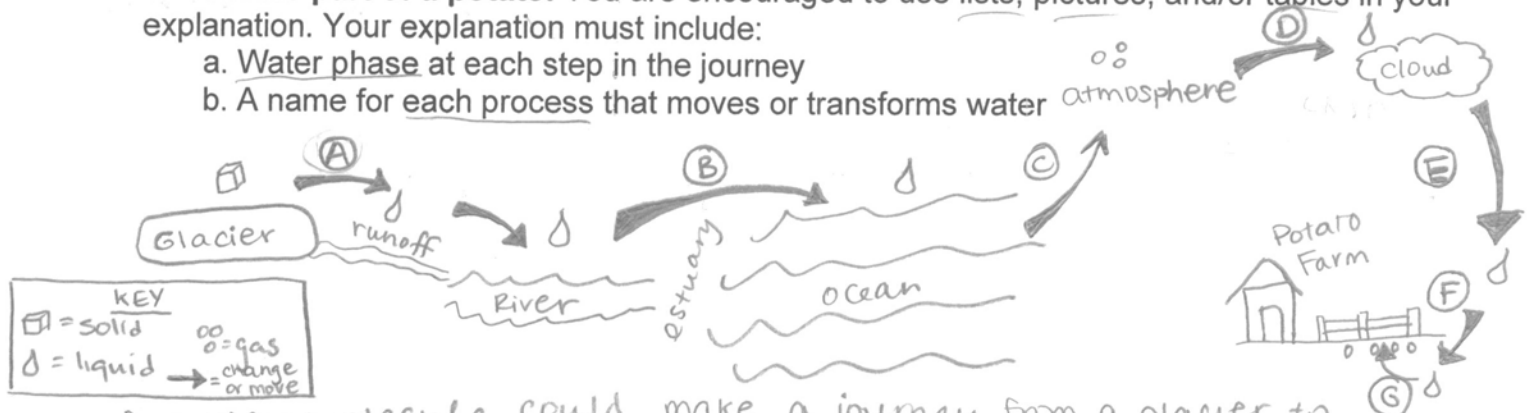
- a. Plants convert biomass into energy
b. Plants convert energy into biomass
c. Plants release energy



SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:

- Water phase at each step in the journey
- A name for each process that moves or transforms water



A water molecule could make a journey from a glacier to being part of a potato as a result of the processes that move and change water and its phases. Starting in the glacier, the water is a solid (ice) until it melts as a result of heat into a liquid. This liquid, as seen in points A and B, moves as runoff (as a result of gravitational potential being turned into gravitational kinetic... because of the principles that energy (chem, therm, gravit) move things to equilibrium). As the liquid moves into the ocean, it recharges the ocean, only to later be evaporated as a vapor into the air. This is seen in point C and is a result of chemical potential/thermal energy being turned into chemical kinetic. The following step, where the molecule changes phase back to a liquid from a vapor is seen in point D, or Condensation. This occurs as chemical kinetic energy is transformed to chemical potential energy, until point E occurs. Point E is known as evaporation, which turns gravitational potential into gravitational kinetic energy until the ^(liquid) water lands on the Earth on a potato farm's field, only to be infiltrated through ^{into} the soil in point F. Later, the potato plants use this water (point G) through cohesion and adhesion to nourish itself.

2. When ice forms from seawater, the ice contains less salt than the remaining water.

Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:

- buoyancy, equilib, temp \rightarrow less dense
- Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
 - The energy that is causing movement or transformation of water.

If polar ice contained significantly more salt than the surrounding water, it is likely that it would be much more dense than usual and more dense than the water around it, thereby affecting the thermohaline circulation in oceans. The circulation occurs as a result of differing buoyancies, or relative densities. Usually, when ice melts into salt water it would give fresh water to the ocean – this H_2O would rise since it is less dense with less ions. Later, as it cools ^{to achieve equilibrium,} and mixes with salt and dissolves the salt ions, it sinks down with a higher density (as seen in figure ①, point ③). If, however, the ice was saltier, gravitational energy would be pulling its dense molecules downward, while forcing other less dense water upward, until once again chemical energy would mix the molecules to achieve equilibrium. Figure ② shows that the dense ice of salty water would probably just force more circulation horizontally, instead of in a circular motion. Since molecules move faster and are less dense when warm, the circulation of a salty ice chunk would not provide much rising or subsequent cooling if it was salty enough to trump temperature's role on density.



2 EXTRA CREDIT (2 points)

EC. How are burning wood and respiration similar?

- They both destroy matter during energy conversion
- They both convert thermal energy into gravitational energy
- They both convert chemical energy into thermal energy
- They both convert kinetic energy into potential energy.

YOUR SCORE:

82

STUDENT ID #: A427 41352; GROUP #: (C)

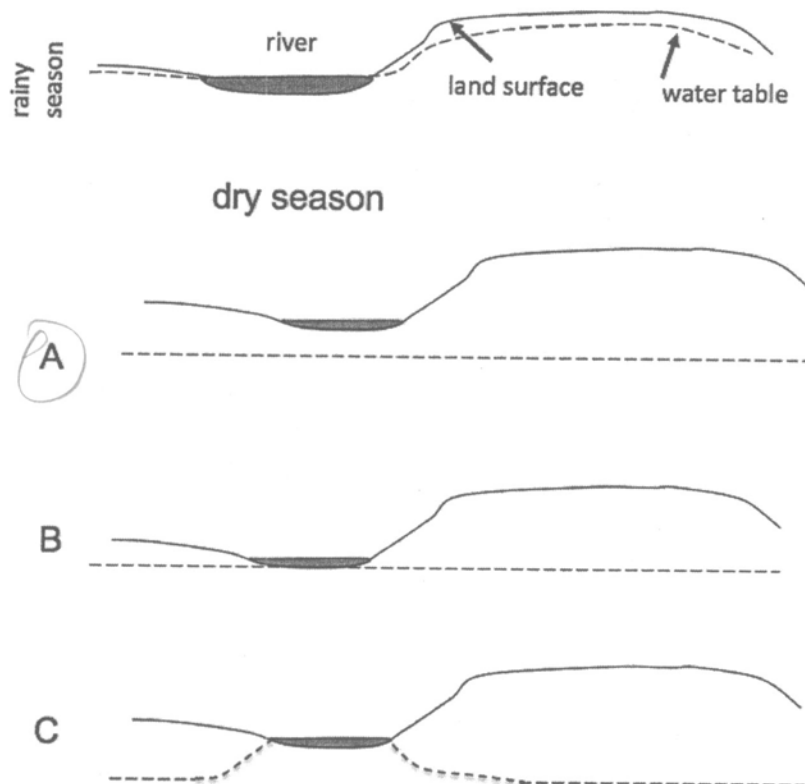
MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

1. What happens when water molecules condense? 7
a. Water molecules become larger
☒ b. Gaseous water becomes liquid water
c. Hydrogen and oxygen atoms combine to form liquid water
d. The temperature of water molecules decreases
2. Which of the following is the largest freshwater reservoir
☒ a. The atmosphere
b. Oceans
c. Glaciers
d. Lakes and streams ~~X~~
3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?
a. Rainfall and surface runoff into the lake
b. Seasonal high water from the Mississippi River ~~X~~
☒ c. Ground water from beneath the surface
4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of ____A____, then becomes water in a glacier through the process of ____B____, and then becomes water in clouds through the process of ____C____.
☒ a. A= evaporation, B= deposition, C= sublimation
☒ b. A = condensation, B= precipitation, C= evaporation
c. A= sublimation, B= precipitation, C= evaporation
☒ d. A = precipitation, B= freezing, C= condensation
5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?
a. Liquid water from the pot condenses
b. Liquid water from the pot evaporates
☒ c. Water vapor from the pot condenses
d. Water vapor from the pot evaporates ~~X~~
6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?
☒ a. This is what one would predict with global warming
b. This is the opposite of what one would predict with global warming
c. Predictions about global warming do not address global precipitation.

7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

- ☒ a. A = chemical, B = thermal, C = thermal
- ☐ b. A = gravitational, B = gravitational, C = thermal
- ☒ c. A = gravitational, B = thermal, C = thermal
- ☐ d. A = thermal, B = thermal, C = thermal

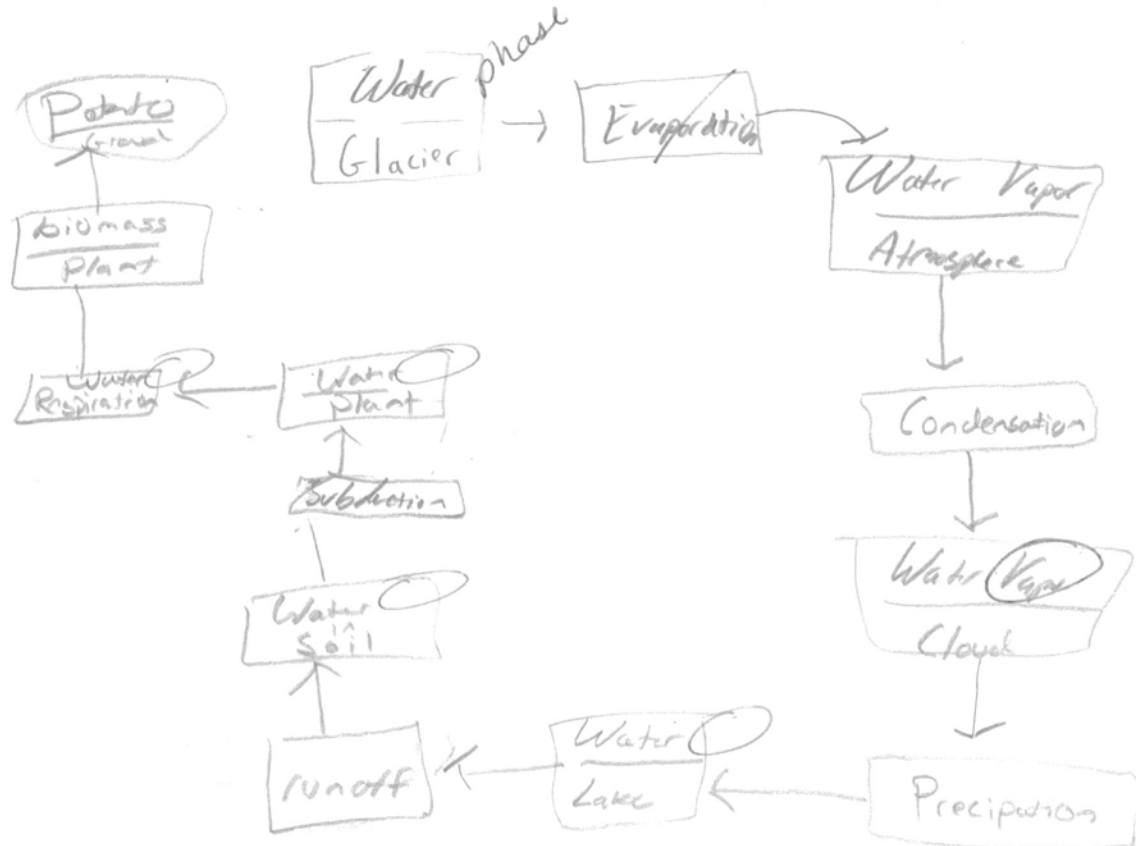
8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- ☐ a. been greater
 - ☒ b. been less
 - ☐ c. remained the same
10. What happens when plants respire?
- ☐ a. Plants convert biomass into energy
 - ☒ b. Plants convert energy into biomass
 - ☐ c. Plants release energy

SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:
- Water phase at each step in the journey
 - A name for each process that moves or transforms water



2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:

- Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
- The energy that is causing movement or transformation of water.

2. If polar ice contained more salt than the surrounding seawater, then the sea water would have an easier time forming. Truthfully, this question boggles my mind. There are many reasons we have learned in class that contradict any possibility of this being true, but IF so, the freezing temperature would also be decreased which would represent that the poles are much colder. Besides the idea that it would be easier for the creation of glaciers and colder water, I personally do not believe that it would have a major effect on the thermohaline circulation in oceans.

density? However, ignoring what I've stated above, my answer is that the range in which thermohaline circulation effects will be decrease from its area's of around 30°, to a slightly higher level which would indicate that the earth would not be heated up as "evenly" as it is today.

15 A. Thermo circulation occurs due to different densities in the air. Cold air falls and warm air rises. Near the equator, cold air is heated through solar ^(thermal) energy and is pushed toward the poles.

b. The energy that causes the movement and transformation of the water are two. Thermal energy heats ^{water} and causes the cold to sink and warm to rise. This energy change actually creates a driving force that creates a circulation. Additionally, there is chemical energy, which occurs due to the salinity of the water.

EXTRA CREDIT (2 points)

EC. How are burning wood and respiration similar?

- They both destroy matter during energy conversion.
- They both convert thermal energy into gravitational energy.
- They both convert chemical energy into thermal energy.
- They both convert kinetic energy into potential energy.

YOUR SCORE:

65

STUDENT ID #: A42226052; GROUP #: C

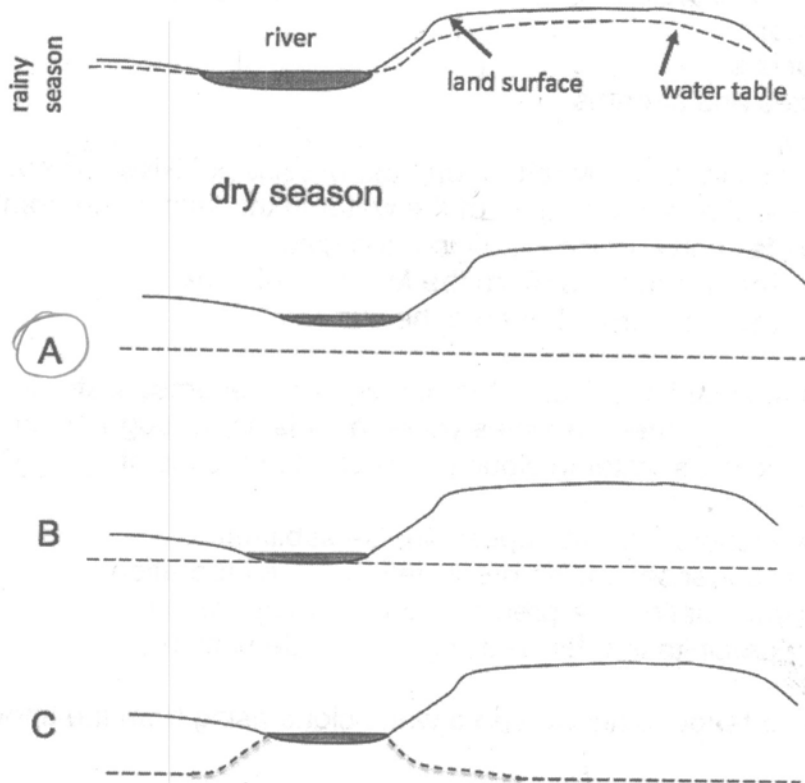
MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

- 9
- 1. What happens when water molecules condense?
- a. Water molecules become larger
 - ☒ b. Gaseous water becomes liquid water
 - c. Hydrogen and oxygen atoms combine to form liquid water
 - d. The temperature of water molecules decreases
2. Which of the following is the largest freshwater reservoir
- a. The atmosphere
 - b. Oceans
 - ☒ c. Glaciers
 - d. Lakes and streams
- 3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?
- a. Rainfall and surface runoff into the lake
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- a. A= evaporation, B= deposition, C= sublimation
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6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?
- ☒ a. This is what one would predict with global warming
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7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

a. A= chemical, B= thermal, C= thermal
 b. A = gravitational, B= gravitational, C= thermal
 c. A = gravitational, B= thermal, C= thermal
 d. A= thermal, B= thermal, C= thermal

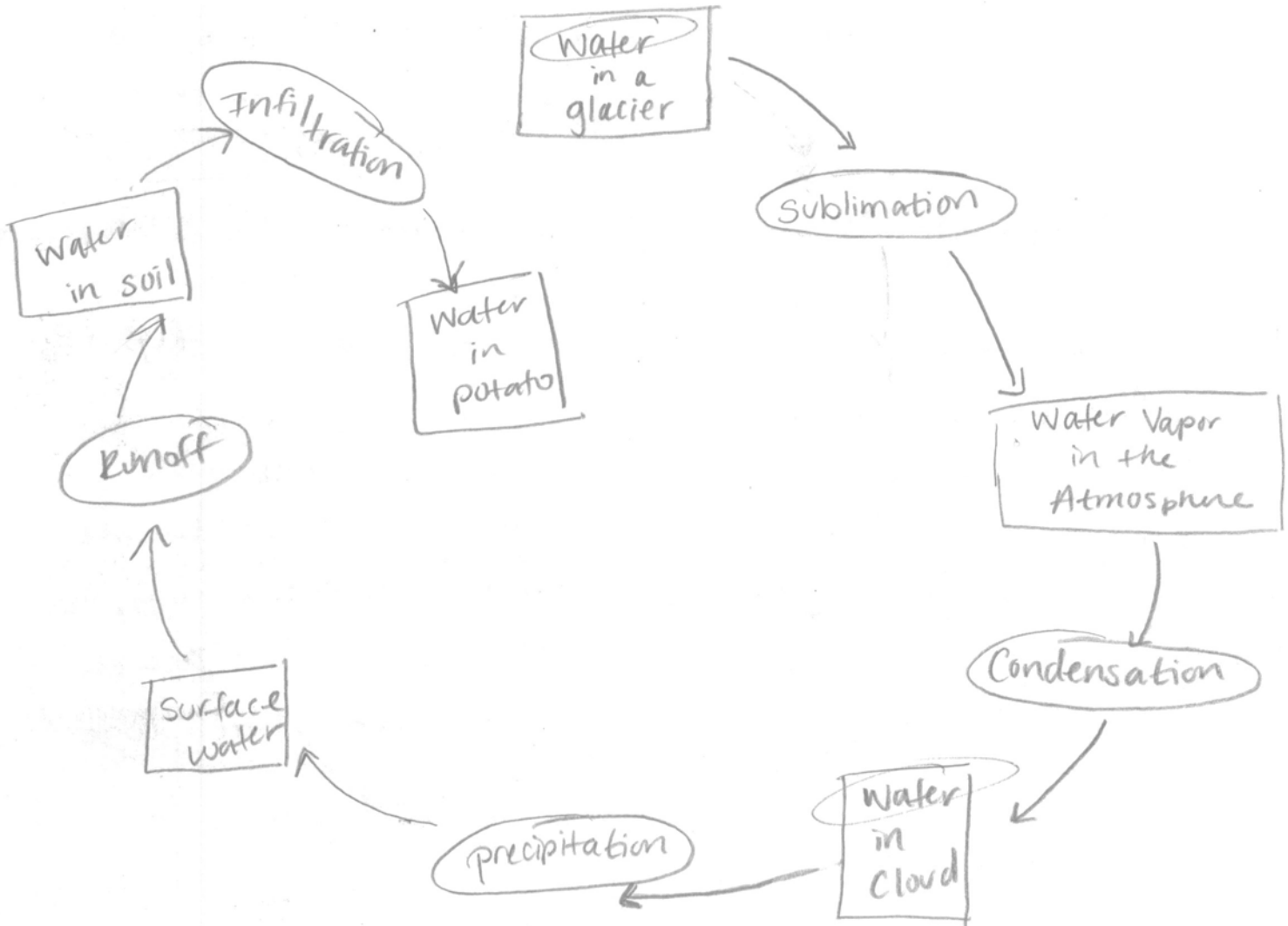
8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?



9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
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10. What happens when plants respire?
- a. Plants convert biomass into energy
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SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:
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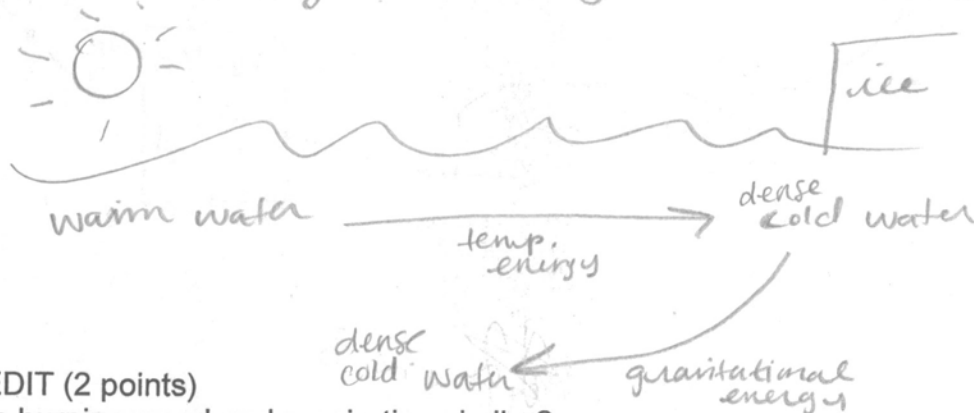


~~22~~ 23

2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:
- Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
 - The energy that is causing movement or transformation of water.

Thermohaline circulation includes water, temperature, and salinity. The water and temperature in the sea creates currents within the sea. The currents move the density of the water so that the water with the more salinity is moved to the bottom of the ocean whereas the fresher water is moved to the top since it is less dense.

If polar ice were to contain more salt than its surrounding waters, the surrounding waters would become less dense. ^{this will cause the water to become warmer.} With gravitational and thermal energy, currents in the ocean will circulate the warmer waters throughout the region warming those waters all together.



EXTRA CREDIT (2 points)

- 2 EC. How are burning wood and respiration similar?
- They both destroy matter during energy conversion
 - They both convert thermal energy into gravitational energy
 - They both convert chemical energy into thermal energy
 - They both convert kinetic energy into potential energy.

YOUR SCORE:

78

STUDENT ID #: A40177778; GROUP #: D

MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

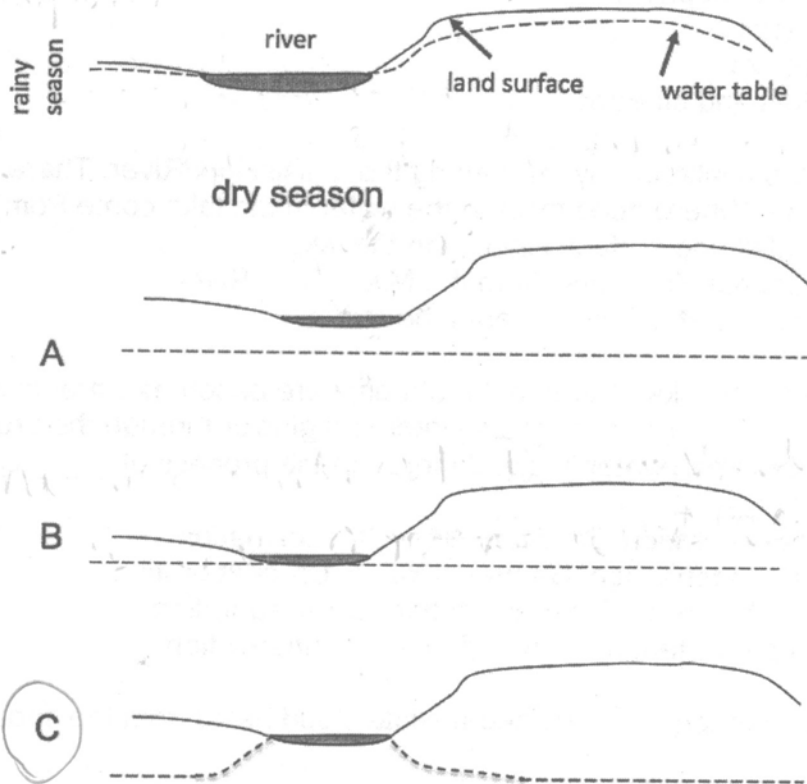
8

1. What happens when water molecules condense?
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c. A = gravitational, B= thermal, C= thermal
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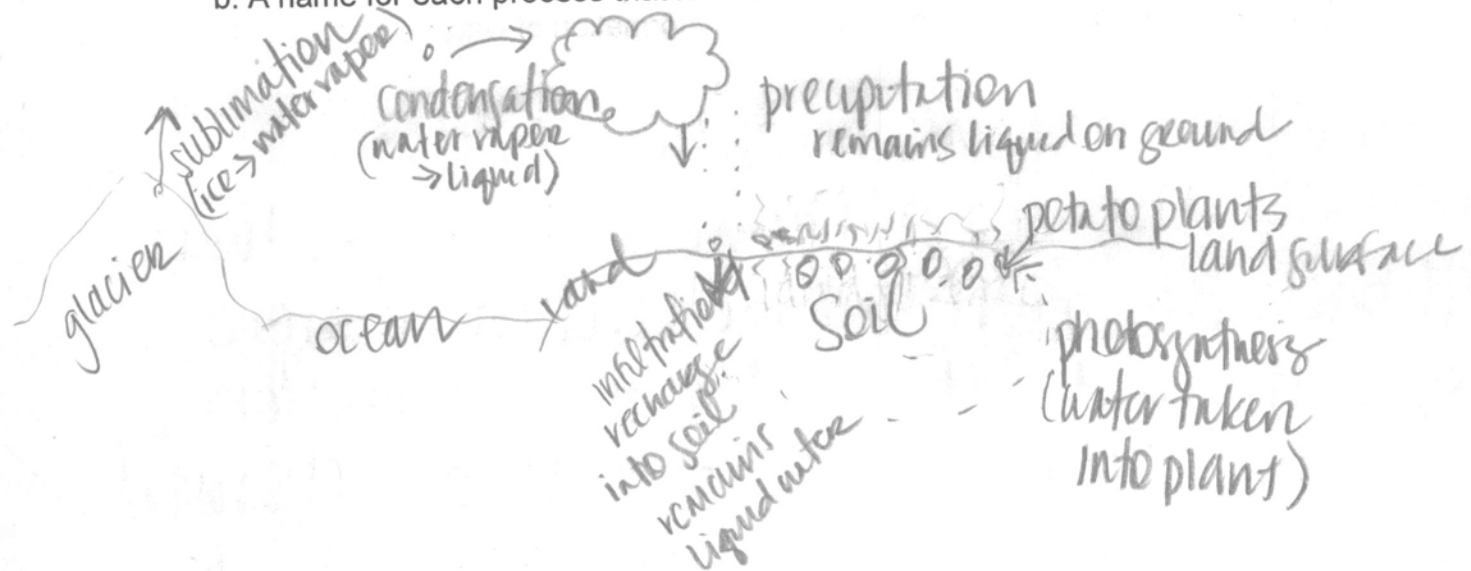
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10. What happens when plants respire?
- a. Plants convert biomass into energy
b. Plants convert energy into biomass
c. Plants release energy

SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:
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Sublimation → condensation → precipitation →
infiltration → photosynthesis

25

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- a. Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
 - b. The energy that is causing movement or transformation of water.

2. Circulation happens because less dense molecules rise, cool, become more dense, then fall back down. If the ice contained more salt it would take longer to melt and/or evaporate because it is more dense. Chemical energy causes the salt water to change into ice because the arrangement of molecules changes from the liquid to the solid form. When molecules evaporate from the glacier or melt, chemical & thermal energy is occurring because the molecules are being heated & changing formation.

2

- 2 EXTRA CREDIT (2 points)
- EC. How are burning wood and respiration similar?
- a. They both destroy matter during energy conversion
 - b. They both convert thermal energy into gravitational energy
 - ☒ c. They both convert chemical energy into thermal energy
 - d. They both convert kinetic energy into potential energy.

YOUR SCORE:

69

STUDENT ID #: A40627897; GROUP #: D

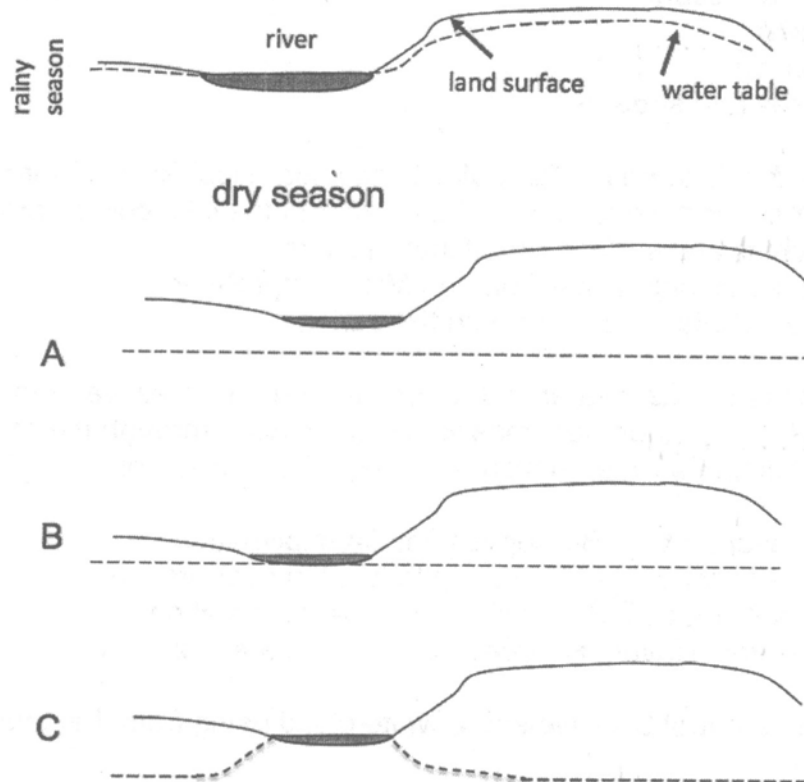
MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

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a. Water molecules become larger
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7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A _____ energy. Water in the atmosphere becomes water in clouds as a result of _____ B _____ energy. Water in clouds becomes water in the atmosphere as the result of _____ C _____ energy.

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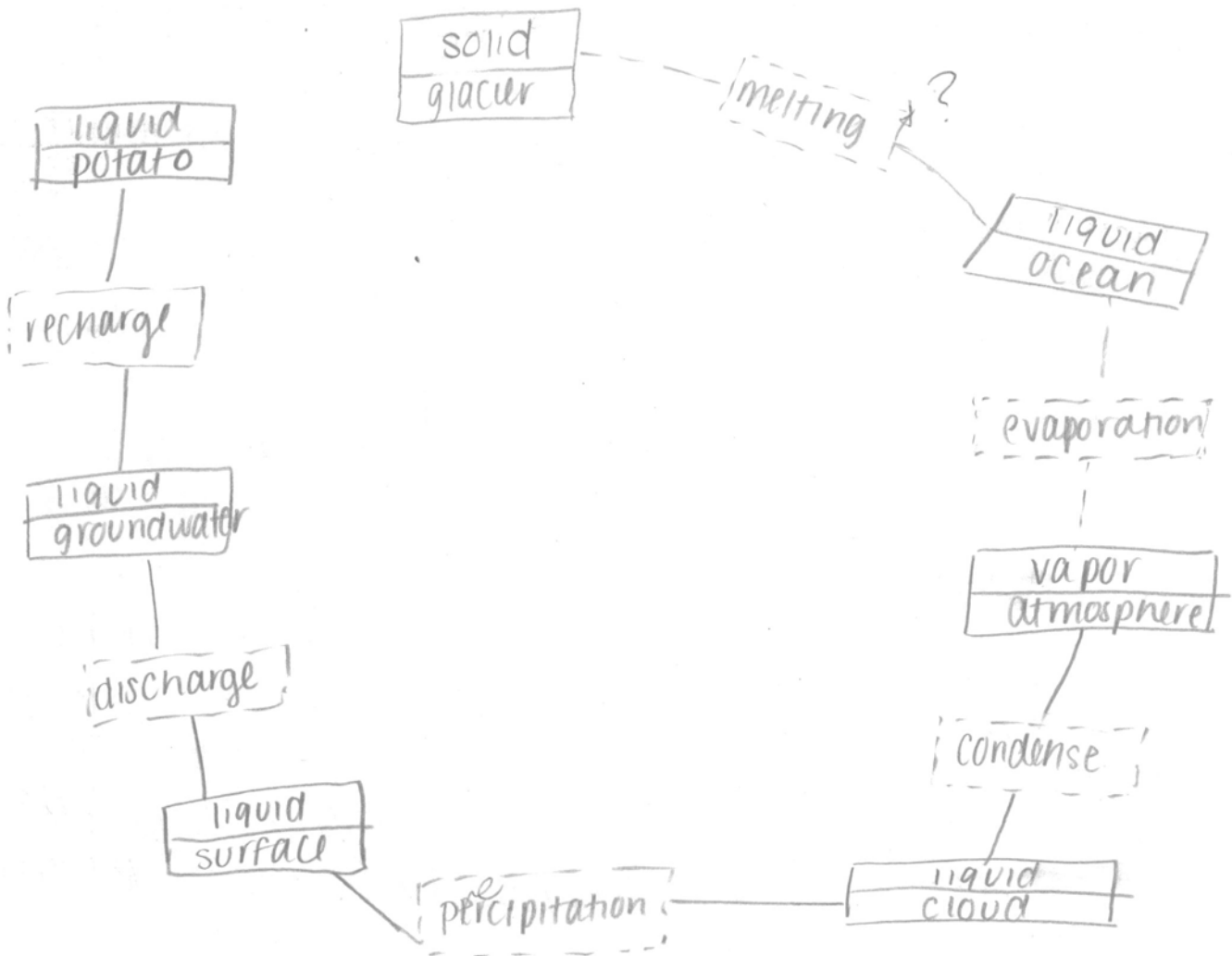


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~~22~~

23

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- a. Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
 - b. The energy that is causing movement or transformation of water.

Ice contains less salt than the remaining water when it forms from seawater. If polar ice contained more salt than the surrounding seawater from which it freezes, the thermohaline circulation in oceans would change. Salinity affects the freezing point of water. When salt is added to ice, the ice melts. If there was more salt in the polar ice it would take longer for the ice to form and this would result in the seawater levels rising. This would add more water to be put in circulation into the atmosphere. The ice would contain more salt than the surrounding seawater, which would make the salinity decrease in that water. The water would evaporate into the atmosphere, condense into the clouds and eventually fall back to the surface as precipitation.

EXTRA CREDIT (2 points)

2 EC. How are burning wood and respiration similar?

- a. They both destroy matter during energy conversion
- b. They both convert thermal energy into gravitational energy
- c. They both convert chemical energy into thermal energy
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YOUR SCORE:

65

STUDENT ID #: A43570651; GROUP #: A=D

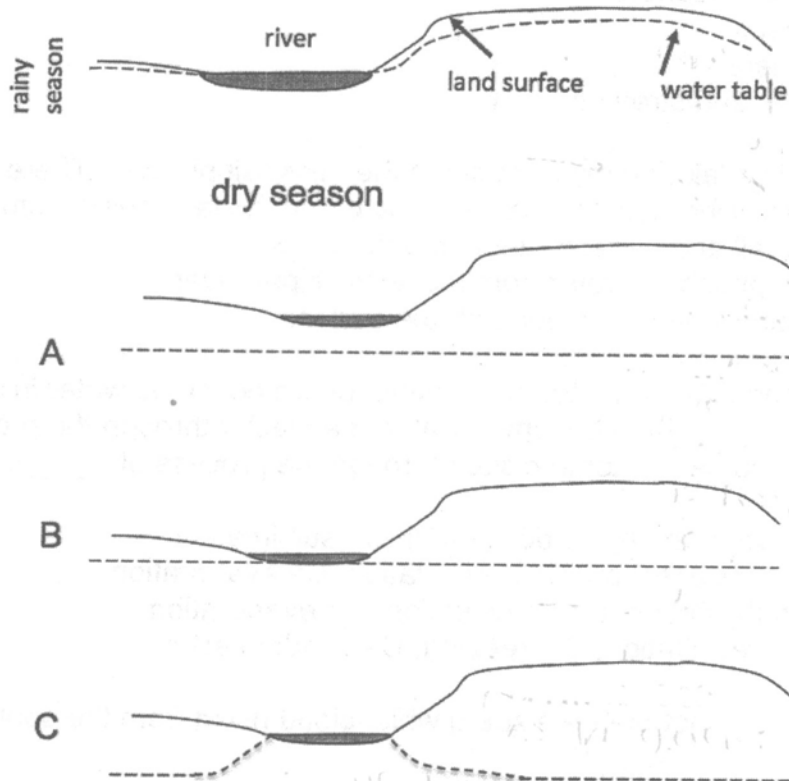
MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

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- c. A = gravitational, B = thermal, C = thermal
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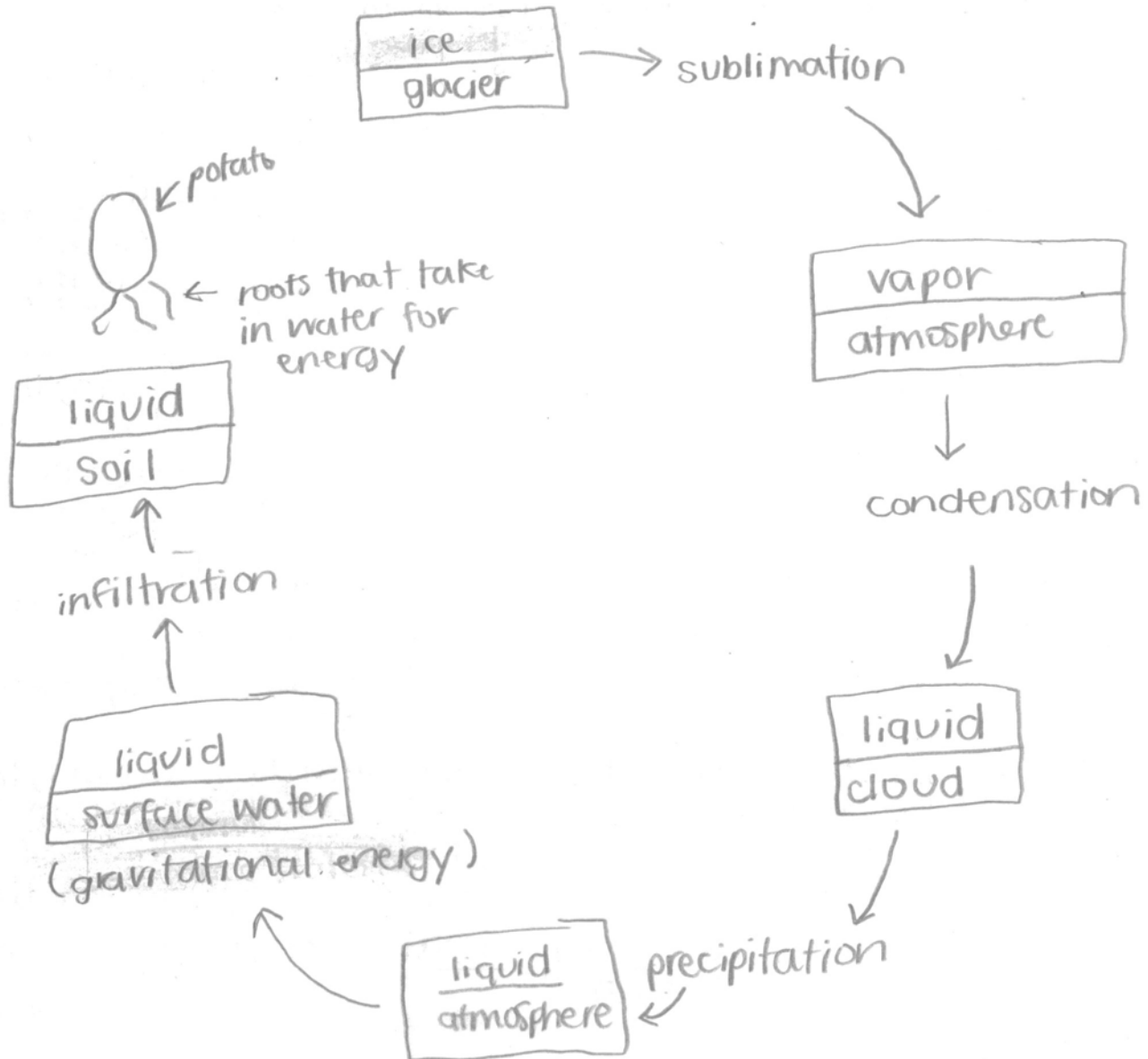


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SHORT ANSWER. 25 points each (50 points total)

1. Provide an explanation for how a water molecule could naturally move from a glacier to become part of a potato. You are encouraged to use lists, pictures, and/or tables in your explanation. Your explanation must include:

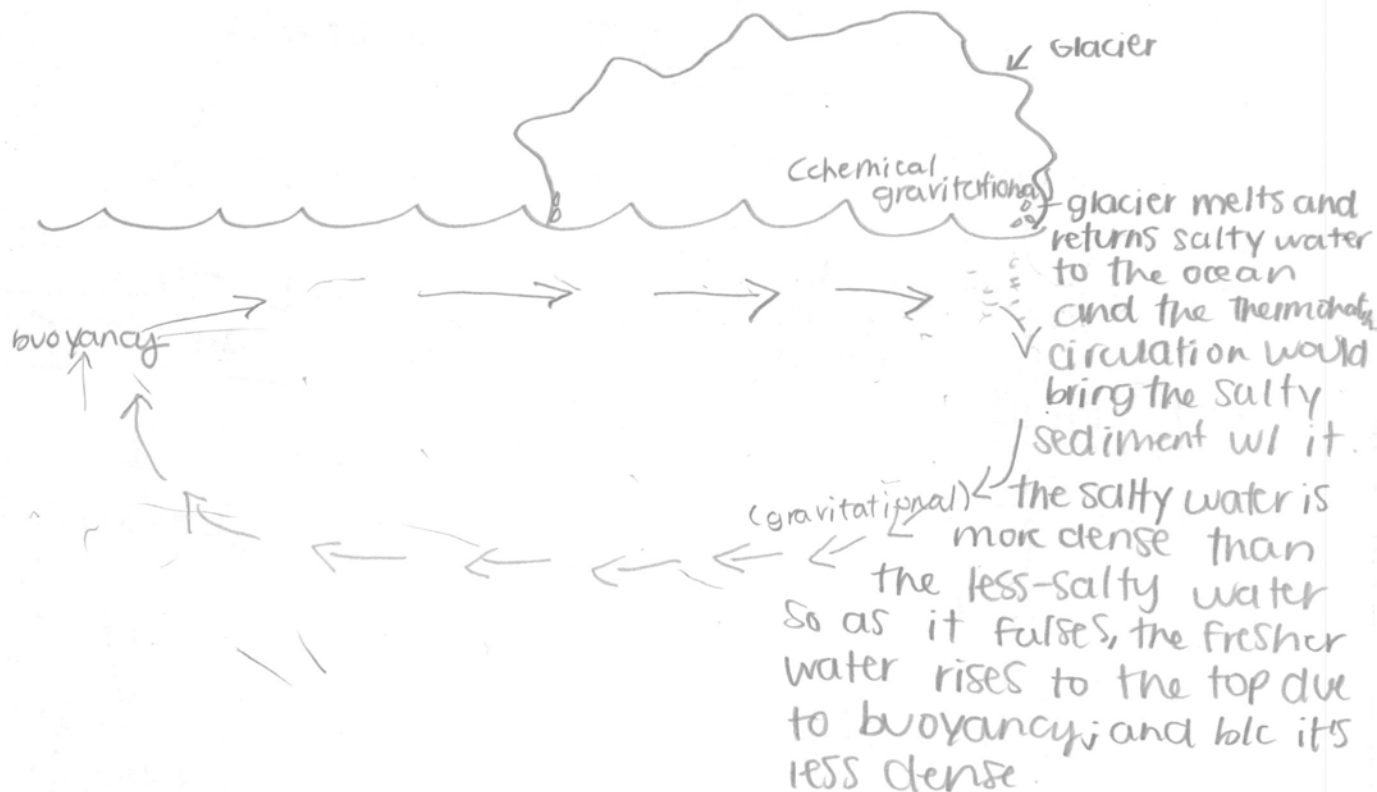
- Water phase at each step in the journey
- A name for each process that moves or transforms water



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2. When ice forms from seawater, the ice contains less salt than the remaining water. Describe how thermohaline circulation in oceans would change, if at all, if polar ice contained more salt than the surrounding seawater from which it freezes. You are encouraged to use lists, pictures, tables or other visuals in your explanation. Your explanation must include:

- Clear reasoning for why circulation happens. Do not simply say that a process is happening – explain why that process happens.
- The energy that is causing movement or transformation of water.



If the glacier contained more salt than the surrounding sea water, than the surrounding water too, would contain more salt. As the glacier melted, the salty water would return to the ocean, the thermohaline circulation would also entail more circulation because the salt in the water would have a more chemical gravitational energy than the water already present in the ocean.

2 EXTRA CREDIT (2 points)

- EC. How are burning wood and respiration similar?
- They both destroy matter during energy conversion
 - They both convert thermal energy into gravitational energy
 - They both convert chemical energy into thermal energy
 - They both convert kinetic energy into potential energy.

YOUR SCORE:

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STUDENT ID #: A37599308; GROUP #: D

MULTIPLE CHOICE. 5 points each (50 points total). Please choose the BEST answer.

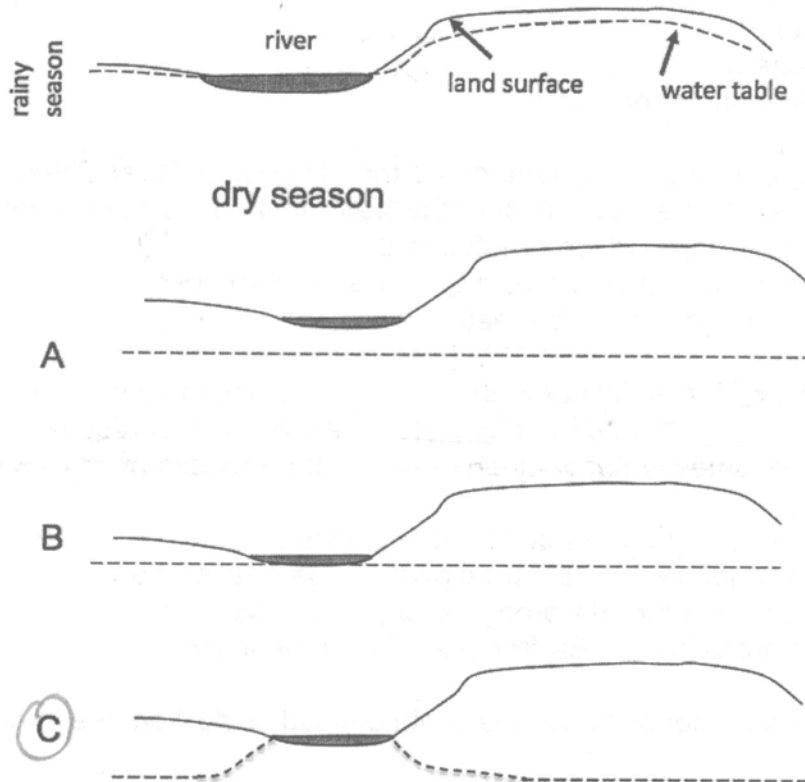
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1. What happens when water molecules condense?
 - a. Water molecules become larger
 - b. Gaseous water becomes liquid water
 - c. Hydrogen and oxygen atoms combine to form liquid water
 - ☒ d. The temperature of water molecules decreases
2. Which of the following is the largest freshwater reservoir
 - a. The atmosphere
 - b. Oceans
 - ☒ c. Glaciers
 - d. Lakes and streams
3. There is a lake on my farm along the Mississippi River. There are no streams running into the lake. Where does most of the water in the lake come from?
 - a. Rainfall and surface runoff into the lake
 - b. Seasonal high water from the Mississippi River
 - ☒ c. Ground water from beneath the surface
4. Fill in the blanks. Water in the atmosphere becomes water in a cloud through the process of A, then becomes water in a glacier through the process of B, and then becomes water in clouds through the process of C.
 - a. A= evaporation, B= deposition, C= sublimation
 - ☒ b. A = condensation, B= precipitation, C= evaporation
 - c. A= sublimation, B= precipitation, C= evaporation
 - d. A = precipitation, B= freezing, C= condensation
5. When a teapot boils we see a white cloud rising from the spout. Why does the white cloud form?
 - ☒ a. Liquid water from the pot condenses
 - b. Liquid water from the pot evaporates
 - c. Water vapor from the pot condenses
 - d. Water vapor from the pot evaporates
6. 2010 was the warmest year on record. It was also the wettest, meaning there was record precipitation. Which of the following statements is most accurate?
 - ☒ a. This is what one would predict with global warming
 - b. This is the opposite of what one would predict with global warming
 - c. Predictions about global warming do not address global precipitation.

7. Fill in the blanks. Water on the ground becomes water in the soil as a result of _____ A G energy. Water in the atmosphere becomes water in clouds as a result of _____ B T energy. Water in clouds becomes water in the atmosphere as the result of _____ C T energy.

- a. A= chemical, B= thermal, C= thermal
b. A = gravitational, B= gravitational, C= thermal
c. A = gravitational, B= thermal, C= thermal
d. A= thermal, B= thermal, C= thermal

8. The drawing to the right represents a slice through the earth with the dashed line representing the water table. If the top diagram represents an area during the rainy season, which figure would best represent that same region during a dry season?

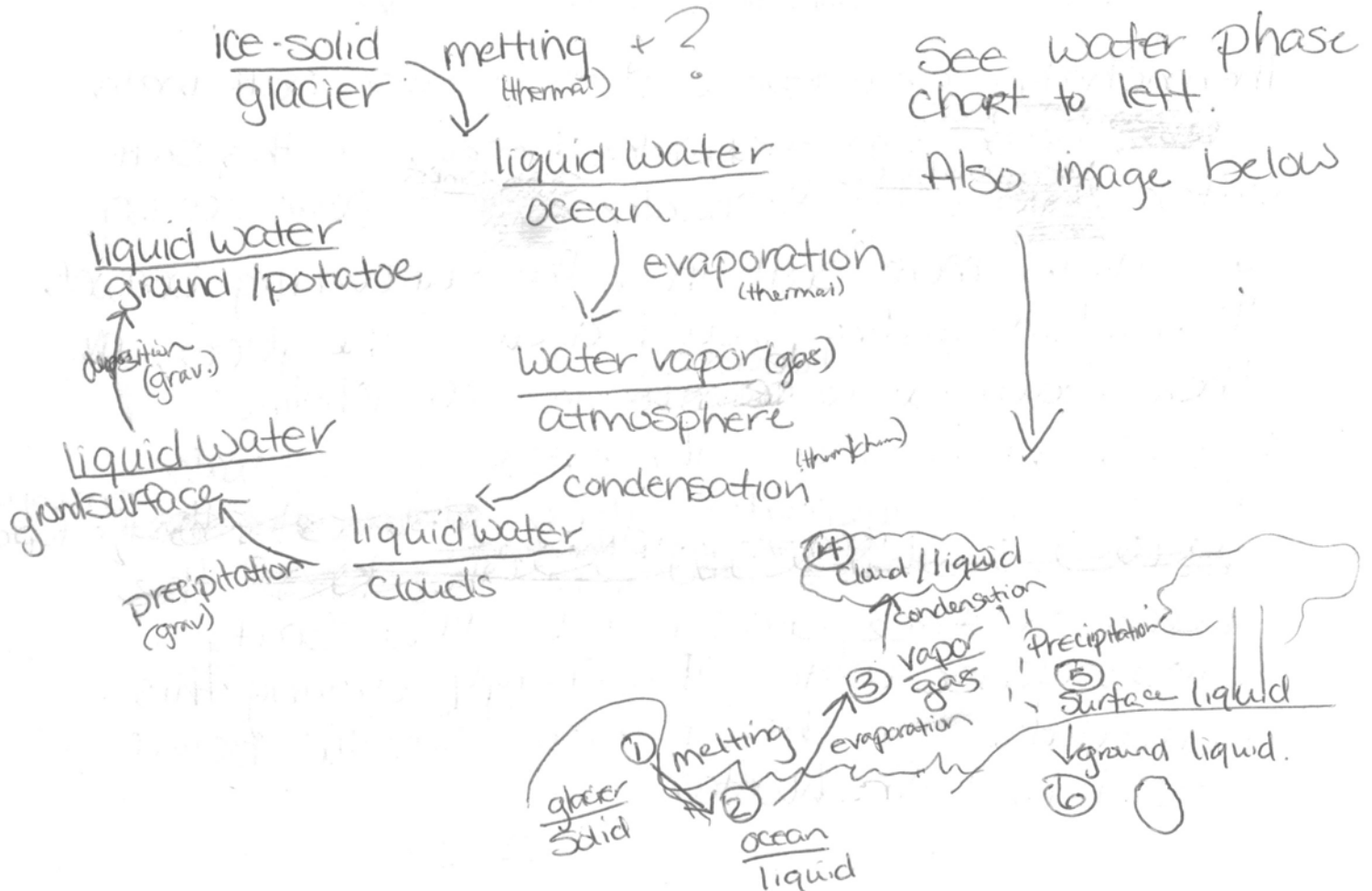


9. We can calculate the rise in sea level due to melting glaciers. In that calculation, we need to know that the density of ice is 0.9 g/cc and the density of liquid water is 1.0g/cc. If the density of ice were greater than the density of water, then the calculated rise in sea level would have:
- a. been greater
b. been less
c. remained the same
10. What happens when plants respire?
- a. Plants convert biomass into energy
b. Plants convert energy into biomass
c. Plants release energy

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